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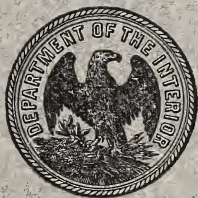
DEPARTMENT OF THE INTERIOR
BUREAU OF EDUCATION

BULLETIN, 1916, No. 16

REORGANIZING A COUNTY SYSTEM OF RURAL SCHOOLS

REPORT OF A STUDY OF THE SCHOOLS
OF SAN MATEO COUNTY, CALIFORNIA

By J. HAROLD WILLIAMS



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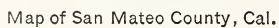
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INTRODUCTION.

The purpose of this study has been (1) to make a careful survey of the county, touching upon its geological, geographical, social, and economic features; (2) to survey the system of schools now provided by the many districts in the county; and (3) to propose a system of public schools to meet more adequately the needs of the people of this larger community.

Material has been gathered by a personal visit to every town and nearly every school in the county; by talks with teachers, pupils, parents, business men, and county officials, as well as by written records. Question blanks were presented to each of the rural schools, and were filled out by the pupils in the presence of the investigator. Blanks were also sent to many of the teachers and parents in various districts. Other information was furnished at the county offices, at Redwood City.

Acknowledgments are due Dr. E. P. Cubberley, of the Department of Education, Stanford University, who suggested the survey, and under whose direction it was made; also to Prof. J. B. Sears, for valuable assistance in studying the rural schools.

REORGANIZING A COUNTY SYSTEM OF RURAL SCHOOLS.

Chapter I.

A GENERAL SURVEY OF THE COUNTY.

I. GEOGRAPHICAL AND GEOLOGICAL FEATURES.¹

San Mateo County lies in the west-central portion of California, on the Pacific coast, in that portion of the State known as the San Francisco Peninsula. It has an area of 477 square miles; there are only two smaller counties in the State. It has a length of 39 miles, and varies in width from 5 to 20 miles, averaging about $12\frac{1}{2}$. It is bounded on the north by San Francisco City and County, on the east by the Bay of San Francisco and Santa Clara County, on the south by Santa Clara and Santa Cruz Counties, and on the west by the Pacific Ocean. The ocean touches the western side with a shore line of more than 50 miles, and the bay extends along the eastern border for 30 miles.

Through the center of the county, from northeast to southwest, runs the Coast Range—a low group of mountains rising from the sea level on either side, reaching, by a series of low foothills, an altitude of 2,500 feet. The Portola Valley, an important farming region, lies east of the ridge. The western portion is rough, and is cut by many deep valleys and gorges, while on the east the foothills gradually drop to the level plain along the bay shore.

It is in this plain, really an extension of the fertile Santa Clara Valley to the south, that the more important towns are located. Through this plain the Southern Pacific Railroad extends south from San Francisco, and a strip of salt marsh separates these towns from the bay.

There are no navigable rivers or large streams. There are seven streams of fair size along the western side, some of which might be utilized for power at some time, although no recent attempts have been made in that direction.

¹ This survey was made in 1913-14. Changes have taken place since, but not such as to vitiate the conclusions.



CROSS-SECTION SHOWING TOPOGRAPHY OF NORTHERN PORTION



TYPICAL CROSS-SECTION OF SAN MATEO COUNTY

CHART 1.—Topography of San Mateo County.

There are four lakes, three of which constitute the Crystal Springs chain, on the high ridge in the central portion of the county to the north, forming part of a series of reservoirs owned by the Spring Valley Water Co., which has been furnishing most of the water supply for the city of San Francisco, as well as for some of the smaller towns along the peninsula. The fourth lake, which is known as the Searsville Lake, furnishes an irrigation supply for the vicinity

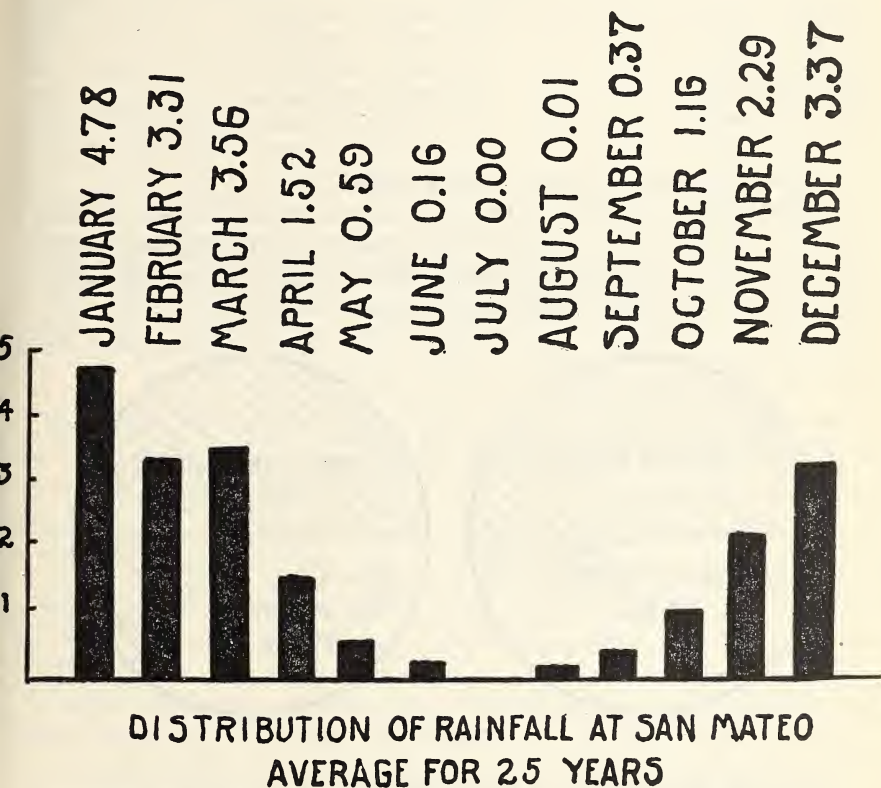


CHART 2.

of Palo Alto and Stanford University, across the line in Santa Clara County.

The rainfall in San Mateo County is usually abundant, averaging for the city of San Mateo 21.12 inches annually. The crops are generally good, with a marked degree of regularity. Of the land in the county, 1.3 per cent is under irrigation.

The county has no mineral resources; although both silver and petroleum have been found, they are of no economic importance.

II. ECONOMIC AND INDUSTRIAL CONDITIONS.

The principal business of the people of the county is farming. There are 665 farms, varying in size from 1 to 1,000 acres. The following table shows the number of farms of each of the several sizes:

FARMS AND FARM AREA.

	Farms.		Farms.
Under 3 acres-----	46	100 to 174 acres-----	90
3 to 9 acres-----	81	175 to 259 acres-----	52
10 to 19 acres-----	55	260 to 499 acres-----	67
20 to 49 acres-----	112	500 to 999 acres-----	60
50 to 99 acres-----	61	1,000 acres and over-----	41

The average size of farms is 241.6 acres.

The 665 farms of the county total about 160,655 acres. Of this amount, 100,800 acres, or about 62.7 per cent, are improved land. The per cent of the total land area used for farming, and the relative area of farm lands improved are shown in chart 3.

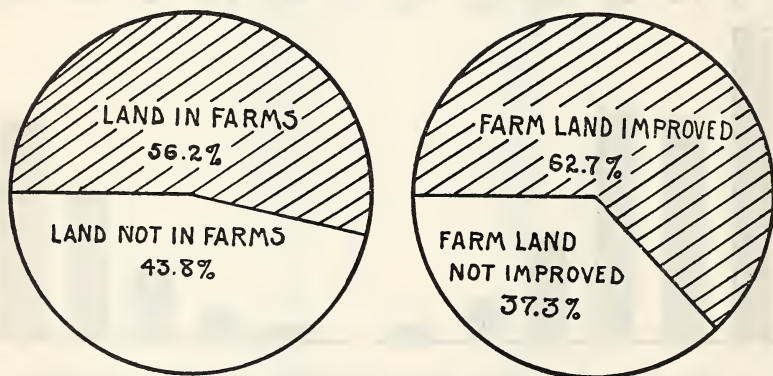


CHART 3.

Although the amount of land devoted to farming has increased but little, the amount of improved land has increased to the extent of 25,400 acres, or about 22 per cent, in the past 10 years. This indicates a steady growth in agricultural activities and promises future development for the county on a firm basis.

The average value of farm land in San Mateo County in 1910 was \$108.61 per acre. This is comparatively high. With the exception of the counties of San Francisco and Los Angeles, there are but 2 of the 58 counties in the State where land values are so high.

The following chart compares San Mateo County in this respect with the State and nine average counties:

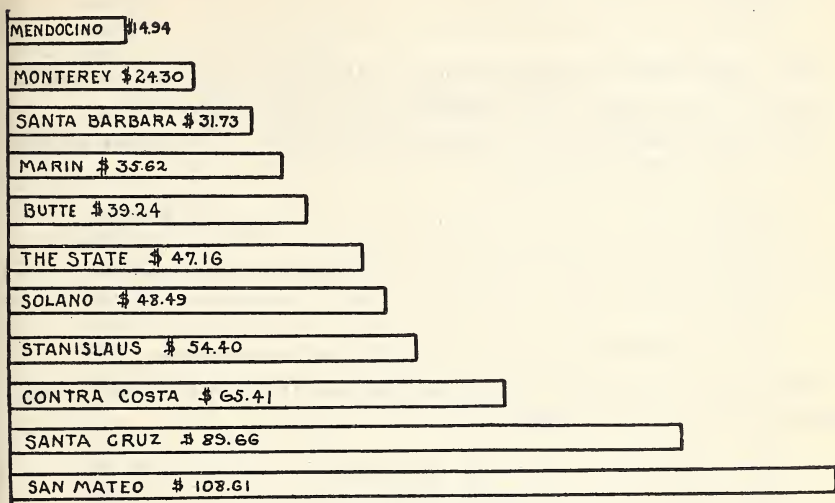


CHART 4.—Average value of farm lands.

The principal crops are hay, grain, potatoes, and garden truck. To the question, What crops do you raise? 10 average farmers, taken at random, replied as follows:

- | | |
|---|------------------------------------|
| 1. Hay, grain. | 6. Grain, garden truck. |
| 2. Oats, barley, wheat, hay, corn, beans. | 7. Garden truck. |
| 3. Hay, potatoes. | 8. Oats, hay, potatoes (dairying). |
| 4. Garden truck, berries. | 9. Oats, barley, wheat. |
| 5. Grain, hay. | 10. Hay, vegetables. |

The value of the vegetable crop for the year 1910 was \$1,395,371, being distributed as follows:

Vegetables.....	\$459, 470
Hay and forage.....	361, 266
Cereals.....	260, 218
Other grains and seeds.....	36, 742
Fruits and nuts.....	73, 272
All others.....	204, 403

The county ranks high in the production of its vegetable crop. The 10 counties previously compared show the following values of vegetable crops in 1910:

Contra Costa.....	\$1, 125, 666
San Mateo.....	459, 470
Monterey.....	330, 296
Santa Barbara.....	244, 205
Stanislaus.....	181, 282

Santa Cruz.....	\$164, 518
Mendocino.....	121, 914
Solano.....	84, 337
Butte.....	55, 314
Marin.....	42, 916

The vegetable crop of the county in 1910 was one twenty-seventh, or nearly 4 per cent, of the vegetable crop of the entire State.

The animal products are slightly less in value. The census report for 1910 gave the following:

Cattle.....	\$463, 646
Horses.....	425, 976
Hogs.....	93, 912
Poultry.....	26, 112
Sheep.....	5, 140
Bees.....	953

The value of the cattle crop for the year 1910, as compared with other counties, was as follows:

Santa Barbara.....	\$35, 813
<i>San Mateo</i>	30, 380
Stanislaus.....	28, 323
Butte.....	24, 553
Mendocino.....	22, 275
Contra Costa.....	21, 899
Solano.....	21, 886
Santa Cruz.....	19, 149
Monterey.....	13, 975
Marin.....	12, 569

The total value of one average year's crops in San Mateo County is approximately \$2,000,000. Compared with the total land value, this is an indication of good investment.

There are two industrial plants of much importance to the county. At San Mateo are the Salt Refining Works, which evaporate the water of the bay and by a special process refine the product into a high-grade table salt, with the coarser grades of salt as by-products. This is a large and growing industry, with an unlimited supply of material. The process of evaporation, as carried on at this plant, is made possible along the shores of San Francisco Bay by the fact that here the evaporation exceeds the precipitation by 25 vertical inches annually. Since there are few places in the United States where a similar situation exists, San Mateo County is assured of a large and growing industry of no little national importance. The output of refined salt is 40,000,000 pounds per year.

The tanning factory, at Redwood City, is another large industry of importance to the county. This plant employs 125 men, runs to

its full capacity every working day in the year, and produces leather to the value of over \$500,000 per year.

The facilities for transportation and communication in the county are good. Two main telegraph lines enter the county, and telephone lines cross in all directions.

The wagon roads are in fairly good condition. At a recent election, bonds to the extent of \$1,250,000 were voted for new and improved roads. The roads in need of the most improvement, perhaps, are those leading over the mountains, east and west, across the county.

The new \$18,000,000 State automobile highway extends the entire length of the county, along the line of the Southern Pacific Railroad, and this splendid paved road, furnished by the State, is available

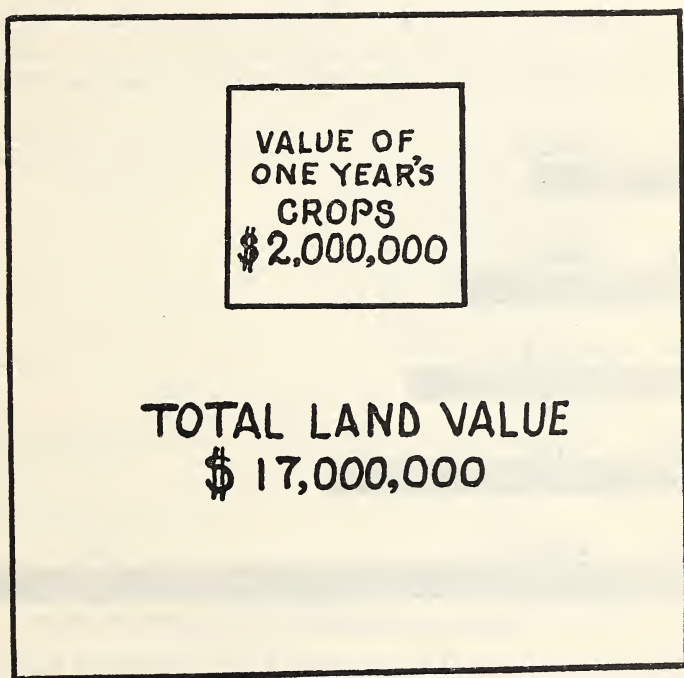


CHART 5.

for the use of the people of San Mateo County for a distance of 30 miles.

III. THE PEOPLE OF THE COUNTY.

The population of the county in 1910 was 26,585, an increase of 119.8 per cent in 10 years. This is an exceptionally large increase, compared with the entire State and with other counties. The increase

in population in 10 counties during the period 1900 to 1910 was as follows:

	Per cent.
Stanislaus	135.8
<i>San Mateo</i>	119.8
Contra Costa	75.5
Marin	59.8
Butte	59.5
Santa Barbara	46.5
Monterey	24.0
Santa Cruz	21.5
Mendocino	16.9
Solano	14.1
The State	60.1

While the county has always enjoyed a steady growth in population, the amount of increase during the past decade is an item of great importance in considering the reorganization of its school system. The following chart shows the increase, by decades, since 1870:

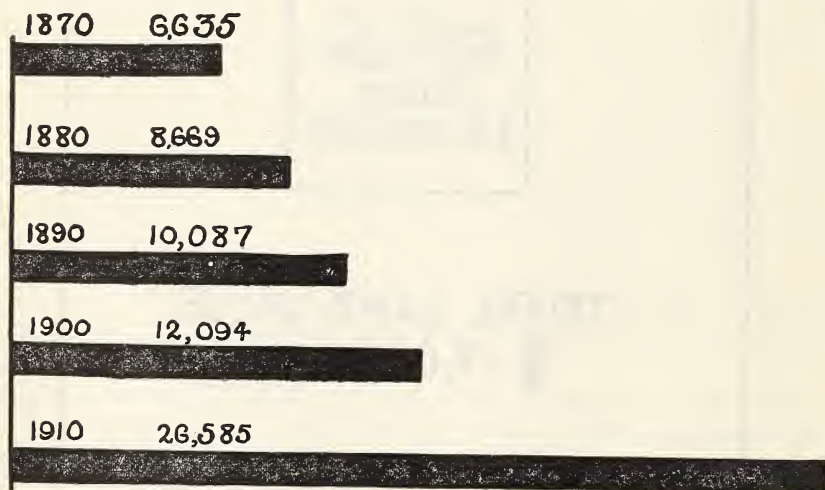


CHART 6.—Increase in population of San Mateo County, by decades.

The greater portion of the people of the county are native-born, although in parentage many different nationalities are represented. The colored population is negligible, there being but 67 Negroes in the county. The cosmopolitan nature of the population is shown in the following chart. A striking feature of the diagram is the nearly equal distribution of the three general parentage classes.

Most of the foreign population are engaged in farming and hence form an important part of nearly all the rural school districts, for the most part of an industrious type and make very desirable and profitable citizens.

As previously noted, nearly all the towns of the county are located along the eastern side on the bay shore. The largest of these towns is San Mateo, with a population of 4,384. The next in size is Redwood City, the county seat, with a population of 2,442. Both are growing rapidly, the former having increased 75 per cent and the latter 50 per cent in the past 10 years, with modern improvements accordingly.

The most interesting fact found in a study of the population is that this county is distinctively a rural one. There are but two towns having a population of 2,000 or more, and the remaining towns

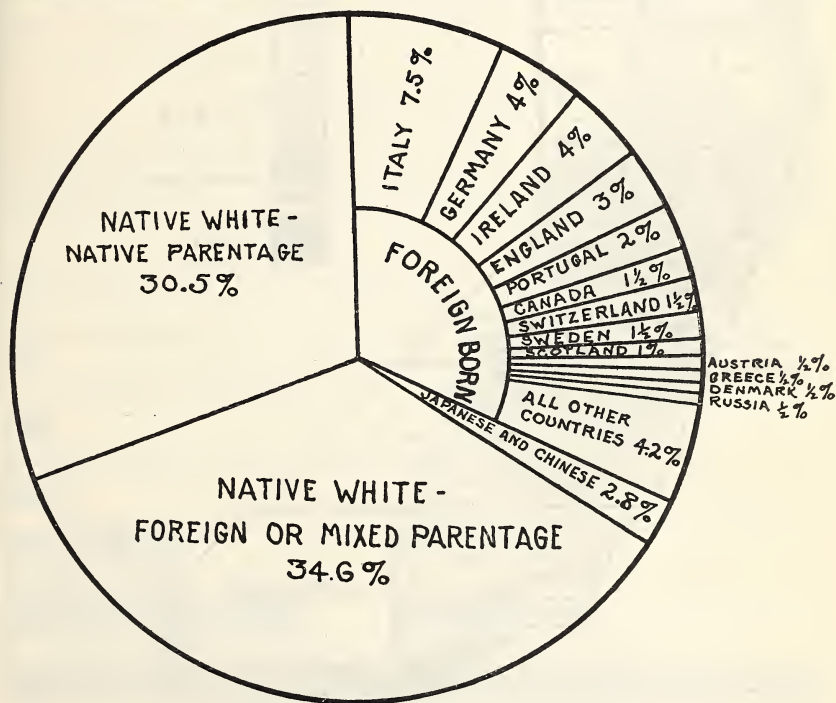


CHART 7.—Composition of population.

are very small. Hence by far the greater portion of the people live in the small rural communities. This, to a great extent, accounts for the large number of small rural school districts, where but one teacher is employed for children of all sizes and ages.

The rural population of San Mateo county is nearly 50 persons (49.9) per square mile, which is a much larger proportion than in any other county in California. The map of the State on the following page shows how the county leads all others in this respect. The figures are taken from the census reports for 1910. This map indicates one of the most significant facts to be considered in the

survey. In the towns along the Southern Pacific are the homes of many business men of San Francisco. A large number of these are handsome residences, and in most cases the property is extensive and very valuable. The town of Burlingame, just 16 miles south of San Francisco, is a community composed of these people, and is a fashionable residence center. Connections are made with the metropolis by means of steam trains, electric cars, and the new automobile boulevard.

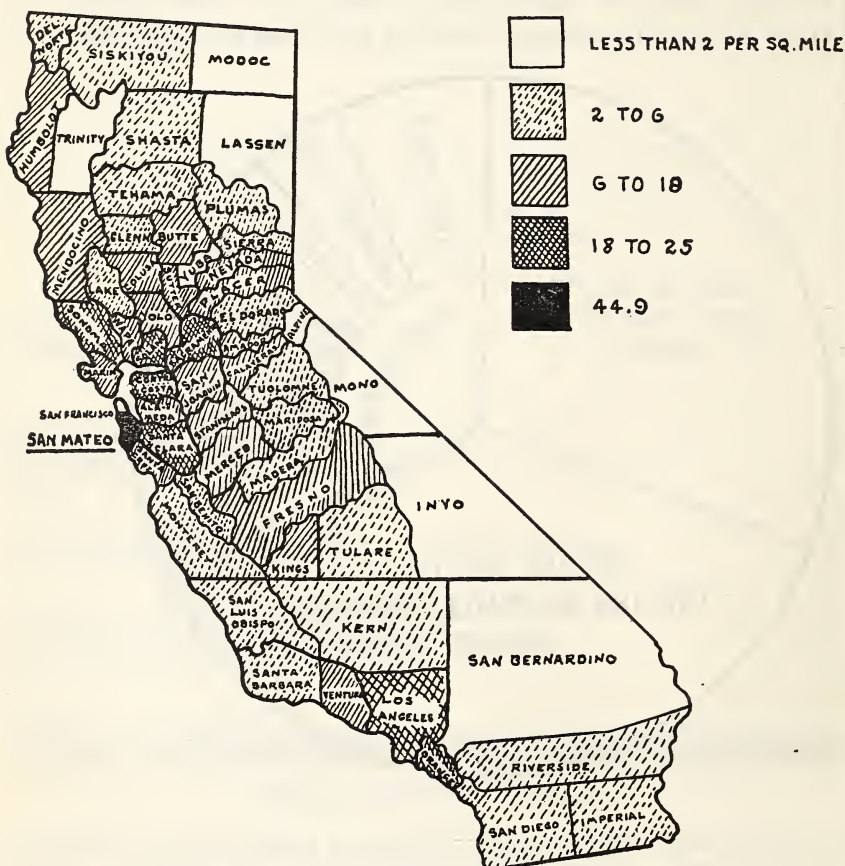


CHART 8.—Rural population of California, by counties.

The amount of illiteracy in the county is high, compared with most California counties. The census of 1910 found 1,684 persons in the county above 10 years of age who could not read and write. This is 7.8 per cent of all the people in the county of that age or over and is a high figure for a California community. There are but 10 counties in the State having so high a percentage of illiteracy, and the average for the State is but 3.7 per cent. The following

table compares San Mateo County in this respect with its four neighboring counties:

	Per cent of illiteracy.
San Mateo-----	7.8
Santa Cruz-----	4.6
Santa Clara-----	4.4
Alameda-----	3.6
San Francisco-----	2.1

The percentage of male persons in the county of voting age who can not read and write is 10.9. Of the 10,153 male voters, 1,106 are illiterate. This number has decreased in the past decade, however, from 11.7 per cent in 1900 to 10.9 per cent in 1910—an improvement of 1.8 per cent.

IV. GOVERNMENT OF THE COUNTY.

For legal purposes the county is divided into five *townships*, each electing one *supervisor* for a term of four years. These five men constitute the *board of supervisors*, in whose hands all matters per-

Public Buildings \$8,331

Protection of Life, Health, Property \$13,877

Judicial \$21,042

Charities and Corrections \$28,515

Highways and Bridges \$139,084

Education \$230,701

Salaries and County offices \$608,807

CHART 9.—Relative expenditures in San Mateo County.

taining to the county are left, except those delegated to the board of education. The board of supervisors levy the county and district school taxes, appoint the members of the board of education, and fill vacancies in the county offices. Their chief function, however, is to provide and maintain roads and public highways; although any proposition involving the entire county is, indirectly, at least, under their supervision.

There are 20 county officers, 8 of whom are appointed by the board of supervisors. These include health, probation, and traffic officers.

The remaining officials, including the superintendent of schools, are elected for four-year terms by the people of the county. Most of the affairs of the county are well centralized, and matters involving roads, regulations, etc., are decided upon by the county officials with no smaller units of jurisdiction. The civil affairs of the county are well managed.

The following table shows the county appropriations during the past year¹ for salaries and maintenance of the more important offices. The expenditure for the office of superintendent of schools, it will be noted, is among the lowest.

Expenditures for county offices.

Offices.	Salary.	Total allowance for office.
Recorder.....	\$3,500	\$11,131.65
Board of supervisors (5).....	6,000	10,100.15
Clerk.....	3,000	8,563.82
Surveyor.....	1,600	7,320.05
Sheriff.....	4,500	6,631.55
Tax collector.....	3,500	6,126.60
District attorney.....	2,400	4,733.74
Auditor.....	1,800	3,505.55
Superintendent of schools.....	2,100	2,638.99
Coroner.....	Fees.	2,368.55
Treasurer.....	1,800	1,861.00

¹ 1913.

Chapter II.

A SURVEY OF THE PRESENT SCHOOL SYSTEM.

I. ORGANIZATION AND ADMINISTRATION.

There is provided, by State law,¹ a county *board of education*, "which shall consist of the county superintendent of schools and four other members, appointed by the board of supervisors of the county." These members, or at least a majority of them, must be "experienced teachers, holding not less than a grammar school certificate in full force and effect." The superintendent of schools acts as secretary of the board *ex officio*.

The board is required to meet semiannually, and at such other times as the superintendent of schools shall deem it necessary to call them together. Each member receives a compensation of \$5 per day for his services, and is allowed 25 cents per mile from his home to the county offices, for each meeting.

The following are the powers and duties of the county board of education, as provided by law:

1. To examine applicants for teacher's certificates.
2. To grant certificates to qualified persons.
3. To revoke certificates.
4. To adopt books and apparatus purchased by the schools of the county.
5. To issue diplomas for graduation from elementary schools.

California is a district-system State, and everywhere the districts, rather than the counties, control the educational affairs. San Mateo County is divided into 36 school districts, 23 of which have rural one-teacher schools. Each district, by law, has a board of trustees consisting of three members elected by the people of the district. Each member of the board is elected for a term of three years.

Each of the 36 boards of trustees is given almost absolute control over the schools of the districts, employing teachers and janitors, determining salaries, erecting buildings, making repairs, buying

¹ School Laws of California, 1913, p. 167.

land, or carrying out any schemes they may see fit, so long as they are not forbidden by law, and provided that they remain within the

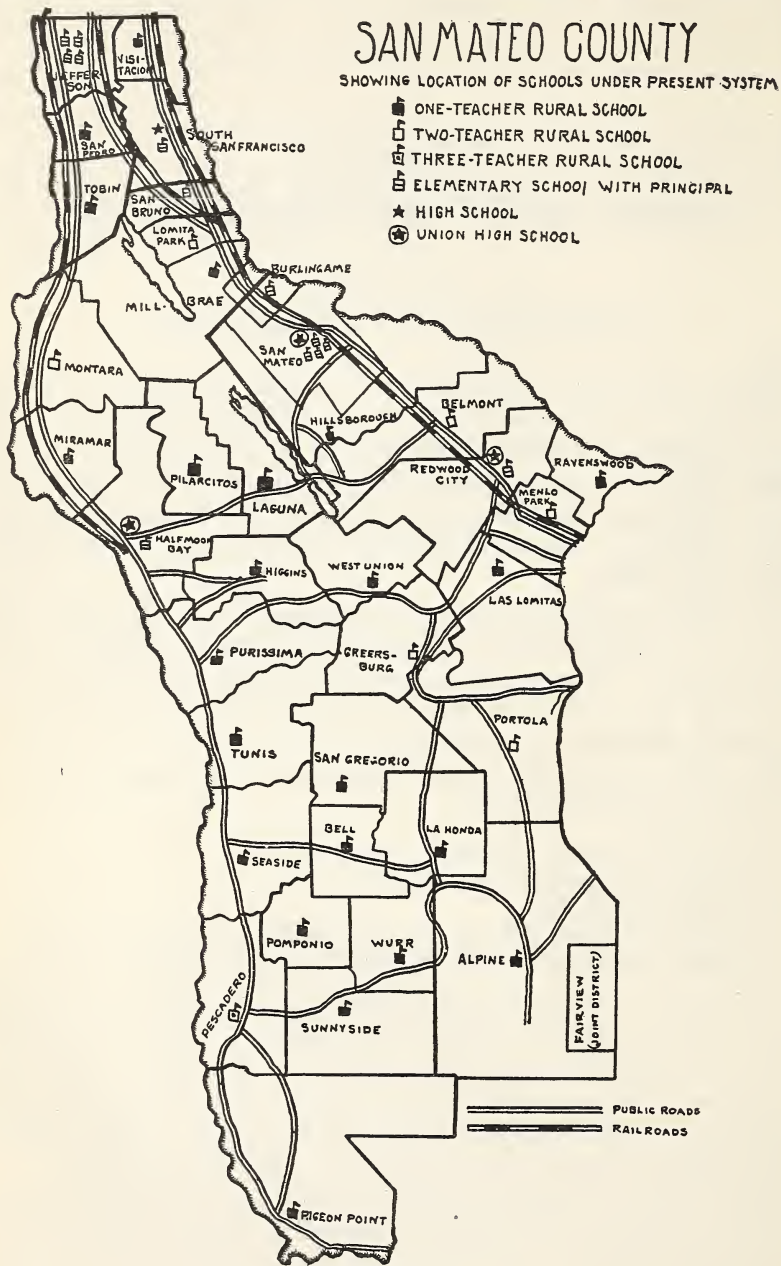


CHART 10.

limits of the funds of the district. For any excess of these funds expended they are personally liable.

There are also three high-school districts, each made by the union of several neighboring districts and each having an additional board of five members vested with powers and duties similar to those of city boards of education, and authorized to act independently of the boards of trustees of the districts of which the union district is made.

The map of the county on page 20 shows the location and size of the schools as they now exist, and also the 36 small districts into which the county is divided:

The county superintendent of schools is elected by popular vote for a term of four years. He receives a salary of \$2,100 per year, but with no allowance for clerical assistance of any kind. He is by law given the following duties:

1. To superintend the schools of the county.
2. To apportion State and county money to each school district.
3. To visit the schools.
4. To preside over the county teachers' institute.
5. To issue temporary teachers' certificates.
6. To distribute laws, blanks, etc.
7. To make and keep records.
8. To approve plans for school buildings, submitted by the district boards of trustees.
9. To act as secretary to the board of education.
10. To appoint trustees to fill vacancies to hold office until the next district election.

These duties, it will be seen, are, with the exception of No. 1, largely clerical in nature and could be equally well performed by an office clerk of reasonable intelligence. No unusual amount of training or preparation is required.

In duty No. 1, although authorized to "superintend the schools of the county," there are absolutely no powers granted him consistent with the carrying out of that duty. The county superintendent, under the present system, can not determine the site or location of a school building or rearrange desks or seats in any building on account of the inadequacy of the heating or lighting; he can not require more ventilation or condemn any building if these things are not properly provided. He can not select teachers, specify their salaries, direct their method of teaching, or dismiss a teacher for incompetency. He can not require janitor work to be more efficiently carried on, employ additional janitors, or require any school building to be cleaned.

"Supervision" of the schools usually consists in visiting each school in the county once during the school year, as required by law, for a period of from 15 minutes to 1 hour; in asking a few questions of the pupils, generally in the form of an examination in reading, etc., for the purpose of determining whether or not the

pupil shall receive the county diploma for graduation; and in meeting the entire teaching body at the yearly teachers' institute. Rarely does the superintendent see or talk with his teachers except on these two annual occasions.

II. A SURVEY OF THE SCHOOLS.

The schools, for convenience in this survey, will be divided into three groups: (a) Elementary schools with supervising principals; (b) high schools; (c) rural schools.

SUPERVISED ELEMENTARY SCHOOLS.

In the towns of South San Francisco, Burlingame, San Mateo, Redwood City, and Half Moon Bay the boards of trustees have employed supervising principals. This is also true of Jefferson district, in the northwest part of the county, where the residence section of San Francisco has extended over the county line. In these districts individual school systems have been worked out and are very efficiently conducted. The following table summarizes the main features to be considered in this report:

School statistics of certain districts.

Names of districts.	Schools.	Enrollment.	Teachers.	Salary of principal
San Mateo.....	4	985	24	\$2,400
Burlingame.....	1	345	8	1,800
Redwood City.....	1	467	16	1,800
Half Moon Bay.....	1	167	5	1,500
South San Francisco.....	1	455	12	1,800
Jefferson.....	4	907	24	1,800

All of these school systems, located in districts where land values are high and where increased taxes are permissible, may be classified as good. The buildings, in all cases, are large and substantial, and although somewhat crowded, are merely confronted with the ordinary problems of growing towns and young cities. The teachers, in general, are well selected and well paid, and the equipment is complete and modern. The principals are mature school men, and their presence at the county institutes is very beneficial to the rural teachers.

The control of these systems, however, by the local board of trustees, the drawing of definite district lines, and the lack of transportation facilities, make the efficiency of these schools much below the point which could be reached if they were placed under the jurisdiction of the county as a single unit.

THE HIGH SCHOOLS.

There are four high schools in the county, located, respectively, at San Mateo, Redwood City, Half Moon Bay, and South San Francisco. The first three named are "union" high schools and are

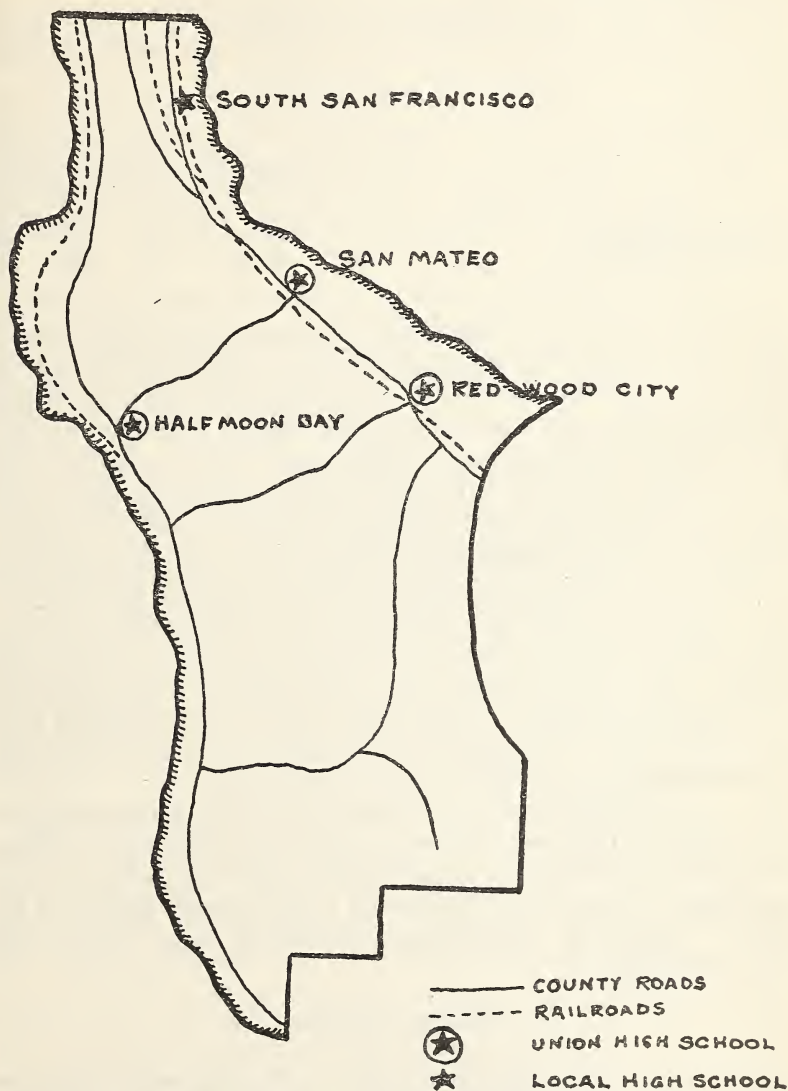


CHART 11.—Present location of high schools.

maintained by the consolidation of several districts for that purpose only. The high school at South San Francisco is small and is not a "union" school, but is maintained by the one district.

The union high schools are doing very effective work and constitute a commendable part of the school system of the county. They are all well supervised and employ excellent teachers. The San Mateo Union High School, the largest in the county, ranks among the best in the State.

The following table summarizes the general information to be considered in surveying the high-school possibilities of the county:

Statistics of union high schools.

Schools.	Value of building.	Teachers.	Pupils.	Salary of principal.
San Mateo Union High School.....	\$290,000	13	222	\$2,500
Sequoia Union High School.....	59,540	8	93	2,200
Half Moon Bay Union High School.....	30,000	5	32	1,500

The opportunities for high-school attendance, however, are inadequate. No means of transportation has yet been offered by any of the schools, or by the county, and the enrollment is made up largely of pupils living in the town in which the school is located, or from near-by towns where railroad facilities exist. Only a small per cent of the children from the rural districts reach the high school, and then only when it is within walking distance or there is a family conveyance. At Half Moon Bay the board of trustees has attempted to meet this problem part way, by providing feed and shelter for horses which are used by the children for bringing them to the school. The trustees here see that the horses are well cared for, kept shod, etc. This effort on the part of the officials of the school to encourage the attendance of the pupils of the rural districts is to be commended, and is but suggesting the larger work that the county should be doing to provide for the rural children.

The county should provide suitable means of free transportation for all pupils in the rural districts who can attend high school. There should also be at least one complete four-year high school and an intermediate, or two-year, high school in the central portion of the county. Suggestions and proposals concerning these will be made later in this study.

THE RURAL SCHOOLS.

There are in the county 31 schools, in as many school districts, where no supervising principal is employed. These 31 schools are in the hands of 43 teachers, among whom is one man.

The remaining 30 schools are taught by 42 women teachers, wholly without supervision, except such as the county superintendent can

give in his yearly visit. The following table shows the number of teachers in these schools:

1 school employs	6 teachers,
1 school employs	3 teachers,
6 schools employ	2 teachers,
23 schools employ	1 teacher,
<hr/>	
31 schools employ	43 teachers.

It is in these 31 unsupervised schools that the urgent need of county reorganization is seen. Each school is a unit in itself, under the present system. Each must adopt, as best can be done, the county course of study; but local conditions, and the common necessity of one teacher having a whole school of eight grades under her care, cause wide variation in the use of even this very important part of the system.

It must be stated, in all fairness, that the rural one-teacher schools in San Mateo County are not below the average schools of the same kind in other counties; on the contrary, there are many commendable features in this county which are not found elsewhere. The chief fault lies not with the present schools and their teachers, but with an inherited and outworn system which permits of such unequal educational advantages as does the district system.

It is inconceivable that in any American city there should exist 31 schools, 23 of which were supplied with but one teacher each, without supervision other than an occasional visit of a school official.

Many of the buildings in use by the one-teacher schools are in bad condition and should be condemned. Four of these buildings were erected in 1870, and seven are more than 30 years old. Being of the old type, they are poorly constructed. Several of them are old dwellings which were purchased by the district trustees for school purposes. Needless to say, they are insanitary, poorly lighted and ventilated, and difficult to keep at the right temperature.

Better buildings, of course, are found in districts where more money can be secured and where two or three teachers are employed. The new building at Menlo Park, for example, is quite modern and up to date, considering that but two teachers are as yet provided for; while the Ravenswood school, in another district and at a distance of less than $1\frac{1}{2}$ miles, is unable to provide a janitor. By consolidation all the children of both of these districts could be cared for at even less expense than both districts are under.

Three of the rural districts, after repeated efforts, have been unable to vote bonds for the erection of school buildings and consequently have none. At Hillsborough, school is kept in a room in the "city hall," and the Tobin and the Laguna schools are maintained in old houses rented for that purpose by the trustees.

In the Alpine, West Union, and Visitacion school districts the buildings are unfit for school purposes and should be abandoned at once. This is also true in the La Honda district. In all four cases efforts to vote bonds have failed.

There are several examples of modern buildings, however, and the people of these districts should be commended upon having secured them. The Las Lomas school is an exceptionally well-constructed building for a rural district. The school at Loma Park is another in this class. In these cases the accomplishments have been made either through the unusual pressure brought about by public-spirited citizens or because the community was able to tax itself to the extent necessary. But their poorer neighbors in the hills in smaller communities are forced to continue as best they can, using in some cases a building for school purposes in which they themselves would not care to live.

It is for these children, who lack many other advantages as well, that the appeal is made for the equalization of the burden, not to rob any community of its opportunities, but to put the same opportunities within the reach of all the children in the county.

Janitor work is provided for by some districts by expenditures amounting to \$5 to \$10 per month. Usually this is undertaken by one of the older pupils of the school, and it is doubtful, often, if the results justify the expenditure. In some cases the teacher is required to do this work, and it is often neglected.

The economy idea in modern sanitation has not as yet found its way into many schools. Feather dusters, straw brooms, and tin water buckets abound in the smaller schools, and in one case, individual drinking cups, of all sorts and shapes, provided by the pupils, were kept on a shelf where the circular imprint of each was left in the coating of dust. This same school was found to have huge cracks and openings in the walls and ceilings, from which pieces of plaster fall from time to time. The stairway and upper rooms of this building, not being used at present, are littered with dirt, trash, and plaster; and upon entering the building one recognizes the familiar odor of an old house which has been vacated and neglected for years.

These conditions, and others which might be described, have arisen wholly on account of the lack of supervision. They are a result of the district system. That boards of rural school trustees, with the right to complete independence, should sometimes fail, either through carelessness or ignorance, to provide a comfortable and healthful school for the children of the community is only natural and to be expected under this form of school organization and management.

At nearly all of the rural schools questionnaires have been presented to the pupils, and a great deal of information secured concerning their home, school, and community life. Space will not permit of the details of this portion of the survey, or of all the conclusions to be drawn from the facts disclosed. Some features will, however, be summarized.

The questionnaire was divided into three parts; one was sent to the teacher, one to the parents, and one was filled by the children of each of the schools.

The blank filled by the teacher gave information concerning the mechanism of the school, the application of the course of study, etc. The blank returned by the parents—several in each district—brought information concerning the size and location of farms, the kinds of crops, the condition of the roads, the newspapers and magazines read, and the opinion of the patrons regarding the work of the school.

The questions answered by the children (in nearly every case under the personal supervision of the investigator) brought interesting facts concerning the economic and social advantages, as the children saw them, of their school and community; their home life, their likes and dislikes of country life, part of their store of information acquired through observation and home instruction, their favorite games, pets, etc., and their plans for the future.

Any one of the 30 or 40 questions asked would make a story in itself, and would be a decided contribution to the work of those who were trying to make the school count for the greatest degree of efficiency. The following data, including the answers to but a few of the questions and covering but half the older children of a single district, indicate in a small way the nature of the survey and its value when tabulated:

Children's answers to questionnaire.

No.	Age.	What work do you do at home?	What do you buy with your money?	Do you put money in a toy bank?	In the real bank?	What books do you like best?	What are you going to be when grown?
1.....	11	.....	.....	Yes...	No....	Story...	.....
2 ¹	12	Milking.....	Candy..	No....	Yes...	Henty..	Engineer.
3.....	13	Cooking.....	do....	Yes...	No....	Story...	Milliner.
4 ¹	14	Plowing.....	Clothes..	No....	Yes...	Alger....	Workman.
5.....	16	Housework..	do....	No....	No....	Atlas....	Nurse.
6 ¹	14	Milking.....	Candy..	Yes...	No....	.....	Cowboy.
7.....	15	Housework..	Clothes..	Yes...	No....	Alcott...	Teacher.

¹ Boy.

In this school it was found that the children were familiar with nearly all the trees, wild birds, and wild flowers in the community;

that but four of the children had neighbors near enough to play with; that they all liked to live in the country; and that in the school there were children who could play the piano, organ, guitar, banjo, harmonica, violin, and cornet.

In reply to the question, What do you expect to be when you are grown? it was found that every one of the older pupils had something definite in view. It further developed that 9 of the 12 older pupils expected to go to high school and to college if it were possible to do so.

III. THE COURSE OF STUDY.

The present course of study for the elementary schools of the county is prescribed by the county board of education. In preparing a program the board is necessarily limited to one that will prepare for high-school subjects, one that can be used in all schools and yet be carried out by a teacher having eight grades in one room.

All schools in the county, whether having 1, 2, 6, or 20 teachers, are required to use the "uniform" course, which is printed and distributed by the county superintendent.

Course for the current year by subjects and grades.

Number work	-----	All grades.
Mental arithmetic	-----	Grades 7, 8.
Geography	-----	Grades 3, 4, 5, 6, 7, 8.
Physiology	-----	Grades 4, 5, 6, 7, 8.
Spelling	-----	All grades.
Word analysis	-----	Grades 7, 8.
Reading	-----	Grades 1, 2, 3, 4, 5, 6.
Literature	-----	Grades 7, 8.
History	-----	Grades 4, 5, 6, 7, 8.
Language	-----	All grades.
Civics	-----	Grades 7, 8.
Morals and manners	-----	All grades.

The course also provides that the following subjects be given by schools where the work can be extended into the ninth grade: English, ancient history, algebra, bookkeeping or Latin, spelling, writing.

This course of study represents a serious attempt to meet the essential branches with the equipment at hand. Although it is lacking in science, agriculture, and domestic arts, it is a full program for any one teacher or for any two teachers having a complete school of eight grades. It is about all that can be managed under present conditions. With a consolidated system, these conditions will automatically cease, and a more modern course of study will be easily possible.

It would seem, however, even under the existing difficulties, that the county should recognize the need of agriculture as a part of the

regular school work, even to the exclusion of some other subjects. Some of the more wide-awake teachers are now conducting school gardens, but for the most part the industrial and home subjects have been disregarded.

An interesting fact in connection with the course of study is that the assembled teachers of the county, at the yearly institute, are invited by the board of education to adopt, by two-thirds vote, any change they may desire. At one meeting of this nature the teachers voted to eliminate cube and square root from the prescribed course in arithmetic.

Progressive measures, however, which must wait for adoption in this way, are likely to be delayed for long periods of time. Sufficient authority should be vested in the superintendent of schools, as a modern educational expert, to make needed changes in any part of the course of study whenever he sees fit. The superintendent, with this authority given him, and with the support and cooperation of the teachers and the people of the county, could act in the same capacity as superintendents of city school systems, from whom most of the progress in curriculum making has come in the past 20 years.

IV. THE TEACHERS.

The teaching body in San Mateo County constitutes the most commendable part of the school system. With the few exceptions usually found in any city or county, the teachers are of a high order. The exceptions, furthermore, occur generally among those who have not had special training, but who have held positions either on old certificates or have secured certificates by virtue of having passed the county examinations.

Of the 130 teachers in the elementary schools, 81 are normal school graduates, 15 are university graduates, and 34 hold county certificates by examination. Chart 12 indicates the relative number in each group, expressed in per cents.

The county is to be commended upon the fact that nearly three-fourths of the teachers are graduates from professional schools, and especially that university graduates are secured by several schools. The number of professionally trained teachers is constantly increasing, and the examination requirements are made more rigid each year. This insures a continuance of the high standards of qualification for teaching positions.

In general great care has been taken in the selection and recommendation of teachers. An honest effort on the part of the people to secure efficient, well-trained teachers for their schools is an indication of a high degree of interest in the welfare of their children. This is to be recognized as an important factor in laying plans for better things in their school system.

The lowest salary paid to any regular teacher in San Mateo County is \$700 per year. In the rural schools teachers receive from \$750 to \$900 per year. In the one-teacher schools the yearly salaries range as follows:

Salaries in one-teacher schools in San Mateo County.

1 teacher receives-----	\$700	1 teacher receives-----	\$850
10 teachers receive-----	750	2 teachers receive-----	900
4 teachers receive-----	800	1 teacher receives-----	930
2 teachers receive-----	840	2 teachers receive-----	960

The average salary of teachers in one-teacher schools is \$879. This is higher than the average for all the elementary teachers in the county, including towns.

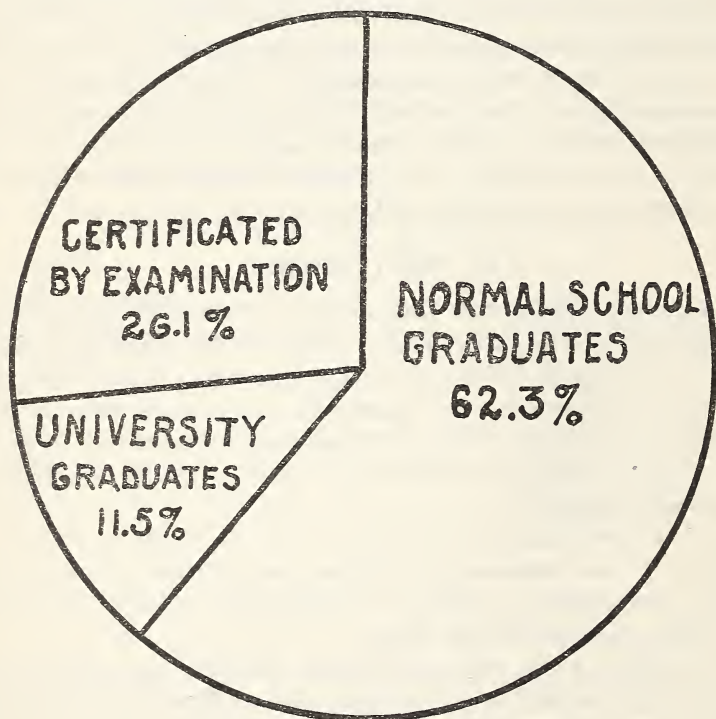


CHART 12.—Qualifications of teachers.

The teachers, on the whole, are found to manifest much interest in their work. It is a truly capable woman who can successfully manipulate a school of seven or eight full grades by herself. There is no other alternative, however, for many teachers than to face this problem, and in most cases the cause of failure to do this does not rest with her efforts.

A strenuous attempt is being made on the part of some of the teachers, even under the existing conditions, to make the school work count for something vital in the lives of the children. All over the county energetic teachers are using every means at hand

to give something of a modern air to the school. In one school a group of the older pupils were studying the universities and colleges within a day's journey from their homes, and had collected pennants from several of these institutions to display on the walls of their schoolroom. The boys in this school were determined that they should go to college, and were glad to talk to their visitors from the university. One rural school was found to have a phonograph with records of the very best type. In another school the teacher, who is a university graduate, is developing a high degree of artistic ability in her school, using the latest models and methods. The apparatus for this, however, she provided at her own expense. This same teacher has also conducted open-air classes in the school yard.

A few teachers have induced their trustees to supply the school with sanitary drinking fountains and paper towels—things never before heard of in the district.

One teacher reported that she took a daily paper, two weekly papers, and seven monthly magazines, four of which were professional education journals. This teacher was keeping school in an old, worn-out building, which was kept, nevertheless, clean and neat, and in a district which furnished but 10 pupils—4 of them her own children. Another energetic teacher was giving extra time in teaching algebra and bookkeeping to boys who were anxious to remain in school near their homes. Such examples as this, and many others which could be cited, indicate favorable conditions for progress. Needless to say, these teachers were only too glad to have the survey made, and willingly gave all the information they could.

In another school the investigators found an old, dilapidated building, poorly kept and untidy, where the teacher eyed the inquiry blanks with suspicion and asked if it were compulsory to answer the questions, as she did not like to do things which were unnecessary. One teacher was conducting a reading class, with the children enthusiastic and quick to respond, while her neighbor in the adjoining district was found dragging over the same lessons, which were a burden to the pupils and herself and a waste of time to the school.

The great need among the teachers of the rural schools is the better type of supervision that consolidation will bring. This is evidenced by the fact that many of the better teachers have expressed this view themselves. To be crowded into a small, isolated district, where new buildings and better equipment is almost an impossibility, is to cheat an energetic and live teacher of her rights as a public official.

Better things can never be expected to any marked degree of efficiency under the district system. When the district lines are removed, the small one-teacher schools abolished, and the entire county

operates as a single unit for equal educational advantages, the people of the country will not have to look to the towns for good schools; there will be in the mountains, as well as along the level shore line, substantial, healthful, well-supervised schools; and competition with the urban schools will be only a matter of individual differences among the pupils themselves.

V. SUMMARY OF THE INVESTIGATION.

1. San Mateo County is well located for future development of economic importance.

2. This development will be largely in the lines of agriculture and manufacturing.

3. Future agricultural development is assured by recent progress and by the amount of improvement of lands not now in farms.

4. The population is rapidly increasing, with indication of much further increase.

5. The population is of a cosmopolitan nature; there are 15 nations represented to an appreciable extent.

6. In the amount of illiteracy the county ranks among the lower grade of counties in the State; 1,684 persons, or 7.8 per cent of the population above 10 years of age, can not read and write.

7. The county is strictly a rural community, leading all other counties in the State in rural population per square mile.

8. The "district system" of public education has worked here, as in most places, to the detriment of educational progress.

9. Many districts have been able, under local conditions, to maintain good schools, and their work is to be commended.

10. Other districts have been forced to yield to financial difficulties, and the schools have suffered for lack of much-needed attention.

11. The present course of study has been carefully prepared, and much effort has been made to carry it into effect; but it is not in accord with the needs of a rural county.

12. There are in the county three excellent consolidated high schools, whose work compares favorably with others of equal size in the State.

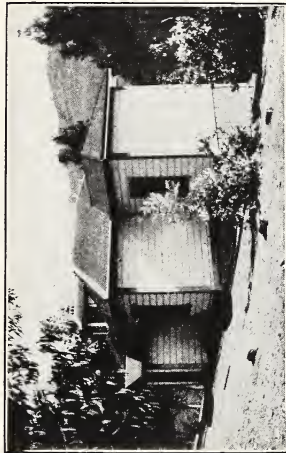
13. The teachers are well selected and well paid; on the whole, they are rendering quite efficient service.

14. The county is a unit for all purposes except for education, and much good has resulted in these other lines by the use of the larger unit.

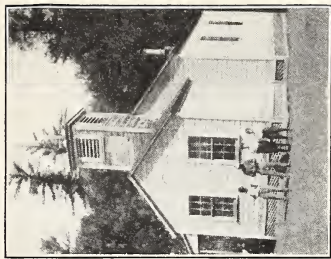
15. A unified system of public schools, with equal opportunities to all the children of the county and the proper management of educational affairs, can be secured only by abolishing the districts and establishing the county unit plan.



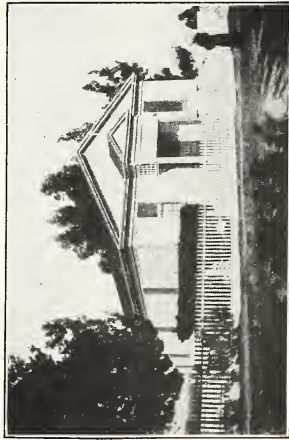
Las Lomitas District School.



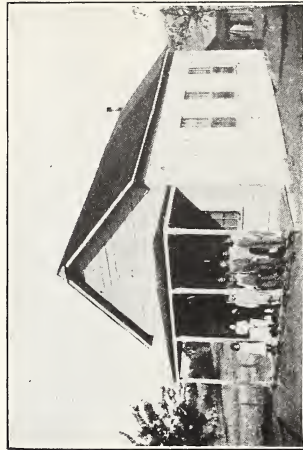
Bell District School.



La Honda District School.



Millbrae District School.



West Union District School.

TYPICAL SCHOOLS OF SAN MATEO COUNTY.

Chapter III.

THE PROPOSED EDUCATIONAL REORGANIZATION.

I. ORGANIZATION AND ADMINISTRATION.

On the basis of the foregoing list of findings and other facts disclosed by the survey it is proposed to outline a plan for reorganizing the school system of San Mateo County to meet the needs of the county as a whole, and to make it in harmony with the present economic and social conditions of this larger community.

It is proposed, therefore, to submit a working plan, in which the county shall be the unit, all district lines now existing to be obliterated, and in which all educational authority shall be vested in a board of education, elected by the people of the county. This board shall then select the officials and experts needed, fix their salaries, and be responsible to the people for maintaining an efficient school system. It is further proposed that taxes for educational purposes shall be levied by this board, and funds shall be distributed among the schools according to their respective needs, regardless of whether it is located in a wealthy or a poor community.

It must, however, be said at the outset, that such a reorganization is not as yet possible under the school laws of California, which still authorize the district system. The law also makes the county superintendent of schools a political officeholder, subject to the campaigning process, and few of the capable men in education will seek the position under these conditions.

The following plan is suggested, therefore, as having been formulated upon the basis of a careful study of the possibilities of one county in this direction.

BOARD OF EDUCATION.

I. The educational affairs of the county shall be delegated to a board of education consisting of five members, none of whom shall hold any educational position during their term of office; they shall be elected by the people of the county at elections held for that purpose only, each member to serve for a term of five years; and they shall serve without compensation, except for traveling expenses incurred when acting for the county.

It will be seen that these recommendations follow closely the plan adopted by most American cities. Leading educators agree that

for purposes of administration of schools there should be little difference in the organization of cities and counties.

The proposal that the members shall hold no other educational position is made in order that men may be secured who are interested in education in its broadest sense; who are sound, practical business men or farmers; and who, by experience and several years of residence in the county, are familiar with its conditions and needs. Such persons will best represent the people by whom they are elected, and their sound business judgment will be a valuable asset to the educational system.

The members are required to serve without pay, so that only public-spirited citizens, well established in the county, who have the best interests of the county at heart, may be eligible. This will be a position open only to this type of men and women.

It is expected that one member should be elected each year. This will prevent any sudden upheaval, such as might be produced if several members came into office at the same time, and will still permit a group of members to work together for a sufficient period to assure uniform management.

II. The board of education shall be responsible to the people of the county for a well-established and efficiently conducted system of schools and shall have the following powers:

1. To appoint a superintendent of schools, selecting him from any part of this or any other State; to fix his salary and prescribe duties and powers not herein delegated to him.

2. To appoint for each school a board of local trustees consisting of three members of the community.

3. To levy taxes for school purposes and to apportion the same to all parts of the county on an equitable basis.

4. To appoint principals of all schools and to secure such other officers, experts, clerks, etc., which may be necessary to a modern system of public schools.

5. To locate all schools and to erect buildings wherever needed.

6. To perform all duties and exercise all authority usually devolving upon boards of education in cities and towns.

7. To prescribe a course of study prepared by the experts whom they shall appoint; said course of study to be of sufficient flexibility that the needs of all communities will be served.

8. To consolidate schools; to cause any school to be abandoned; and to provide means of transportation for pupils from their homes to the school.

9. To act as a final deciding body for the county upon all questions which may arise involving the system of schools under their jurisdiction, with appeal from their decisions only to the State superintendent of public instruction.

The people of the county having once elected and placed their confidence in the board of education, with these powers and duties, would be able to secure a business administration, free from petty politics and the intrusions of local interests.

THE SUPERINTENDENT OF SCHOOLS.

III. The superintendent of schools shall be appointed by the board of education for an indefinite term, and he shall continue in office until his resignation, or until his removal by the board upon written charges, or for incapacity to continue further the fulfillment of his duties.

He shall be ex officio secretary of the board of education, meeting with them and advising them in matters under their jurisdiction, with power to speak upon any subject, but shall not be privileged to vote.

IV. It shall be the duty of the superintendent of schools:

1. To superintend the schools of the county.
2. To act as secretary of the board of education.
3. To act as the agent of the State in the examination for teaching certificates.
4. To prepare, and furnish for the approval of the board of education, a course of study for the schools.
5. To prepare the forms, blanks, etc., necessary to carry on the work of his office.
6. To call and conduct institutes and teachers' meetings.
7. To recommend persons to be appointed principals by the board of education, and to submit lists of teachers to the boards of local trustees.
8. To recommend the appointment or the dismissal of any principal or teacher.

It is to be fully understood that the superintendent of schools is to be given sufficient authority to perform properly the duties delegated to him as the chief executive of the educational system of the county. As the board of education is authorized to select the superintendent from this or any other State, it will naturally follow that he will be a capable man of broad experience and training, and should be given unlimited authority in matters requiring expert skill. The board is further authorized to pay a salary which will secure the best ability.

The superintendent should have under his direction a complete office force. There should be two assistant superintendents, one of whom should act as supervisor of the schools, and the other to manage the affairs of the office, preparing blanks, documents, meeting visitors, etc. Under the present system these matters take much of the superintendent's time from more important duties. There should also be one person to act as clerk and stenographer.

This will leave the superintendent free to attend to the larger duties of administration, to represent officially the board of education, and to see that the functions of his office are properly performed.

The superintendent is given power to recommend and dismiss teachers and principals and thus to secure for the county the best instruction obtainable. The competent, well-selected body of teachers which would result from this provision would alone be worth to the county many times the money expended in employing an able executive.

It is recommended that a salary of not less than \$3,500 per year be paid to the superintendent.

BOARDS OF LOCAL TRUSTEES.

V. The board of education shall appoint for each school in the county a board of local trustees consisting of three members, each of whom shall be a resident of the community served by the school, and shall serve three years, one member retiring each year.

It shall be the duty of the board of local trustees to care for all buildings, lands, and property intended for school purposes and to make needed repairs, after first notifying and receiving the approval of the board of education through the superintendent of schools; and they shall be responsible to the county for the property under their care.

They shall appoint janitors upon the recommendation of the principal of the school and shall provide all improvements necessary to keep the buildings and grounds in the order prescribed by the board of education.

The principal of each school shall be ex officio secretary of the board of local trustees for his school and shall meet with them and advise them, but shall not have a vote, if that method of decision should at any time become necessary.

The members of the boards of local trustees shall serve without pay and shall be subject to dismissal by the board of education only upon written charges.

The board of education shall pay all expenses incurred by the boards of local trustees in performing their duties.

The boards of local trustees shall, upon the recommendation of the principal, appoint all teachers and assistants necessary to the school under their care: *Provided*, That no teacher or assistant be appointed or dismissed by them except with the approval of the board of education through the superintendent of schools.

The proposal to authorize a board of local trustees for each school is in no way to be construed to mean the segregation of each school into a district or definite community. There are to be no district lines other than the attendance lines which may need to be drawn between certain schools, and the plan of consolidation of schools to be proposed will permit only 13 such boards to be appointed.

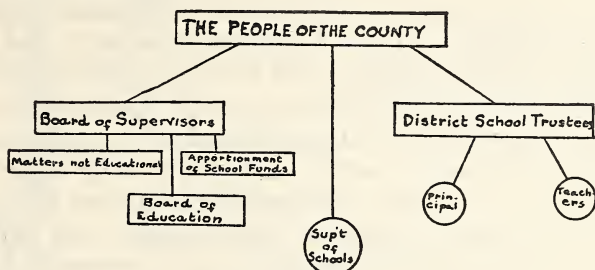
This plan has been in use in the counties of Maryland, and has been shown to be of very practical value. This is especially true of Baltimore County, which does not include the City of Baltimore and which is strictly a rural community, much the same as San Mateo County.

BOARDS OF LOCAL TRUSTEES IN TOWNS.

VI. In any incorporated town or city having two or more schools the board of local trustees shall consist of five members, appointed in the same manner and exercising the same authority as boards of local trustees herein provided for one school, except that they shall have under their care all schools, both elementary and secondary, within the limits of the incorporated town or city which they represent; and the superintendent of schools shall select one principal to act as secretary of the said board of local trustees under the same provisions made for one school.

In order to prevent the organization of two or more boards of local trustees in any town, such as exist now for high schools and

elementary schools in Redwood City, San Mateo, and Halfmoon Bay, one board of five members is provided for. This board would have jurisdiction over all the schools in the town, and thus there would be no segregation of the high schools from the elementary schools, as at present.



THE PRESENT ORGANIZATION.

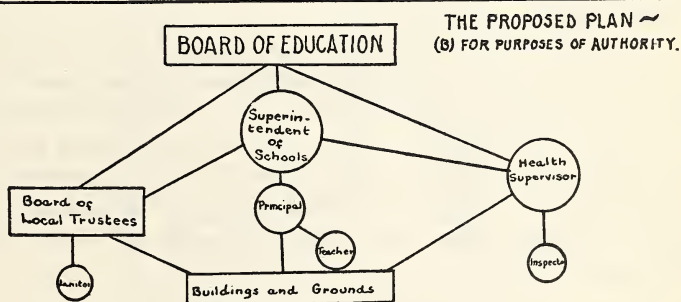
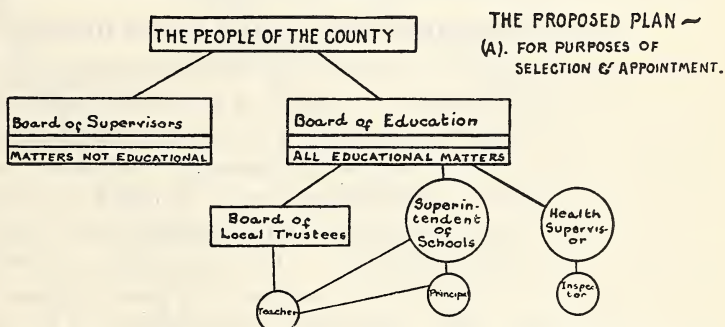


CHART 13.

The boards of local trustees, it will be seen, are not granted *educational* authority. They are authorized to care for buildings, grounds, and school property belonging to the county, and to appoint teachers recommended by the principals and the superintendent. Matters requiring expert ability are to be acted upon by persons appointed and paid for that purpose. Thus the people of each community are to be assured of skilled and competent persons in authority, and

important matters are not subjected to manipulation by some local politician, or an inefficient school board, such as are often in power under the present district system.

COUNTY HEALTH SUPERVISOR.

It is further recommended that the board of education appoint a county health supervisor. There is already provided by the county a health officer, and this position could easily be combined with that of health supervisor, who would act as medical inspector for all the schools of the county. He should provide and direct health examinations of pupils and teachers, and a regular system of inspection of school buildings and premises. He should declare and lift quarantines on schools, pupils, homes, or neighborhoods, and should be responsible to the board of education, through the superintendent of schools, for the sanitation of buildings and grounds, and for the proper care and treatment of all physically defective children.

II. THE PROPOSED SYSTEM OF CONSOLIDATION.

The proposed plan of consolidating the schools under the county-unit plan can best be shown by means of the maps prepared for this purpose. The map of the county on page 20 shows the present system and the number of small schools it sanctions. The county is divided into 36 small districts, each of these having its board of trustees, who erect buildings, employ teachers, and maintain school wholly independent of the other 35 districts. The map on the following page shows the schools as they would be under the plan suggested by this study, with fewer, larger, and better schools located at the most convenient points.

The proposals for the reorganization will be of two kinds: First, to make use of present well-organized school centers, and by enlarging their equipment bring in children from adjoining communities, and leave them practically as they are; second, to erect new schools at favorable and convenient points, abolishing all other schools. In both cases, children living at a distance from the school are to be transported free of charge from their homes to the school and back to their homes each day.

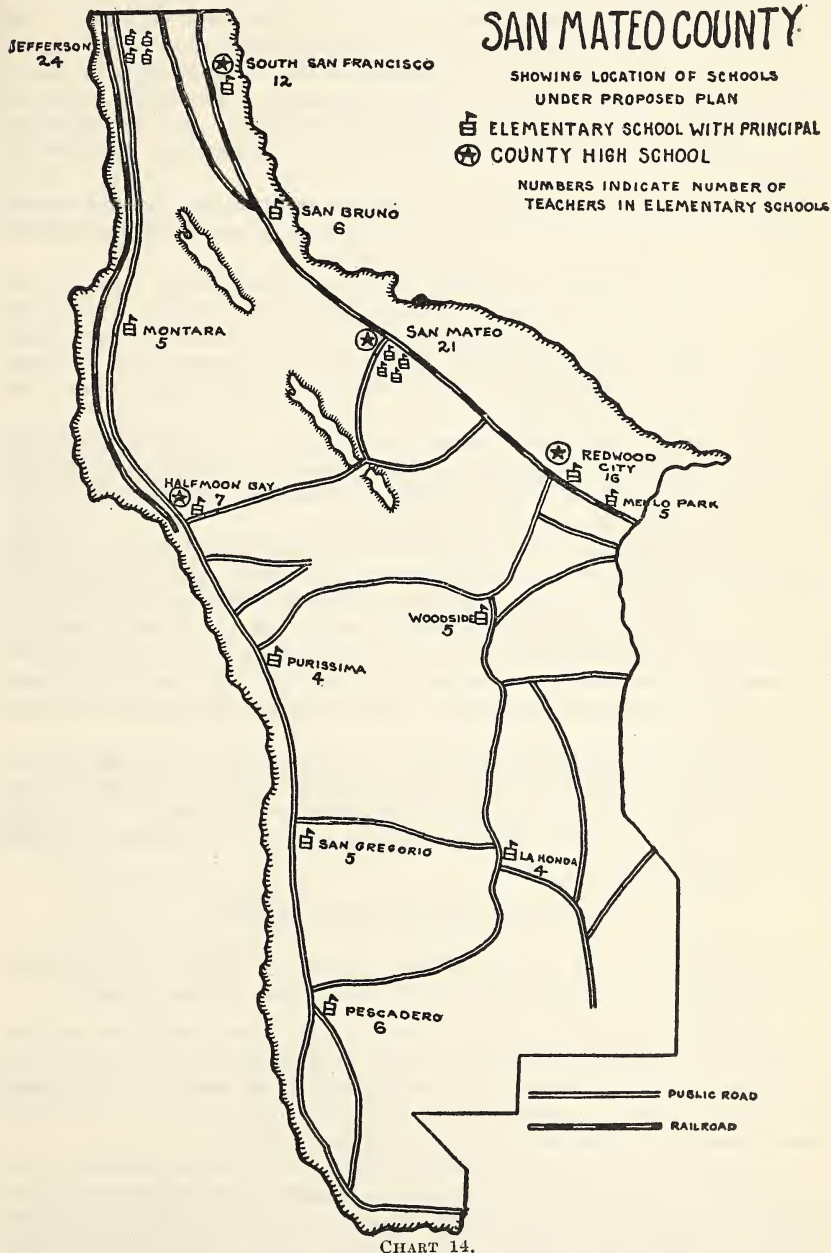
OLD SCHOOLS TO BE USED.

There are seven points at which consolidation may take place by enlarging the schools at places now provided with good schools. These will be taken up individually, their present equipment briefly described, and suggestions made for enlargement.

It is proposed to consolidate all the schools of the county, without district lines, into 13 school centers, each with a supervising principal, and no school with less than four teachers.

The following are the present schools to be enlarged:

1. *South San Francisco*. Large school with principal and 11 teachers. High school with three teachers. A new high-school building needed, and children



should be brought from the present visitation district. One wagon or automobile bus necessary. Electric car lines may be used.

2. *San Bruno*. Has at present a principal and 5 teachers. School should be enlarged to accommodate children from Lomita Park and part of Millbrae districts. Possibly one wagon needed. Electric line may be used. No more teachers necessary.

3. *San Mateo*. Has 4 elementary schools with supervising principal. Has 20 elementary teachers and 3 special supervisors. Should accommodate pupils within present district, which is sufficient territory. The Burlingame school should become part of the system. One transportation automobile is now in use at Burlingame and should be continued as at present. Another should be run from San Andreas Lake to bring children from the Laguna and Hillsborough districts.

The high school in San Mateo is in excellent condition and should be maintained as at present, except that means of transportation should be provided to bring more children from the rural communities.

4. *Redwood City*. Large elementary school with supervising principal and 15 teachers. Should accommodate children from Belmont and West Union districts. Probably two wagons will be necessary. An addition to the present building or a new building required. Union high school here in good condition. Has principal and 7 teachers. Should transport pupils from country and encourage larger attendance.

5. *Menlo Park*. New school building just completed. Has 3 rooms and 2 teachers. Could easily be arranged to have 4 rooms, 4 teachers, and a principal. Should accommodate children from Las Lomitas and Ravenswood districts. One automobile bus would be sufficient.

6. *Half Moon Bay*. Elementary school with principal and 4 teachers; should be enlarged, 2 more teachers added, and should accommodate children from Mirimar, Philarcitos, Laguna, and part of Higgins districts. This could be made a fine example of a consolidated elementary school. Some provision is now being made for transportation. Three automobile busses or wagons required.

Union high school here has principal and 4 teachers. Present building may need addition. Should be commended for the large per cent of rural children now enrolled.

7. *Jefferson*. Has supervising principal, 4 schools, and 23 teachers. Splendid system, well supervised. Should accommodate children from San Pedro district. One bus required. Several San Francisco high schools are within 20 minutes' ride on electric cars, and children should be encouraged to attend these, county paying car fare.

NEW CONSOLIDATED SCHOOLS NEEDED.

The remaining six of the schools are to be entirely reorganized. The following is a description of the new consolidated schools:

1. *Woodside* (Greensburg district). Here a new school should be built to accommodate all the children in the vicinity of Woodside and the Portola Valley. Possibly location should be somewhat changed, but should be near Woodside. Should have a principal and 4 teachers. Two wagons or automobile busses required. Estimated cost of new building, \$25,000.

2. *La Honda*. A new school should be built to accommodate children of La Honda, Wurr, Bell, and Alpine districts. Principal and 3 teachers. Three wagons or automobile busses required. This is a splendid location for a future large consolidated rural school, and should prove to be one of the most attractive places in the county for a rural educational center. Would increase the value and attractiveness of property. Estimated cost of building, \$20,000.

3. *Pescadero*. New building should accommodate children of Pescadero, Pi-geon Point, Sunnyside, and Pomponio districts. Principal and 5 teachers. Four wagons required. Estimated cost of building, \$25,000.

4. *San Gregorio* (Seaside district). Should accommodate children of Sea-side, San Gregorio, and Tunis districts. Principal and 4 teachers. Two wagons or busses necessary. Estimated cost of building, \$20,000.

5. *Purissima*. Children of Purissima and part of Higgins districts. Would be small to start with, but would increase in attendance. Principal and 3 teachers. One wagon or automobile required. Cost of building, \$15,000.

6. *Montara*. New building to accommodate children from Montara, Tobin, Mirimar, and part of Millbrae districts. Transportation largely on Ocean Shore Railway. One wagon required. Principal and 4 teachers. Cost of building, \$25,000.

Summary of proposed consolidated schools.

Location.	Probable enrollment.	Teachers and principals.	Wagons or busses.	Proposed change.	Cost of building.
South San Francisco.....	468	12	1	Addition.....	\$2,000
San Bruno.....	264	6	1	None.....	
San Mateo.....	1,340	21	1	do.....	
Redwood City.....	496	16	2	Addition.....	5,000
Menlo Park.....	109	5	2	do.....	5,000
Half Moon Bay.....	223	7	3	do.....	5,000
Jefferson.....	924	24	1	None.....	
Woodside.....	100	5	2	New building..	25,000
La Honda.....	40	4	3	do.....	20,000
Pescadero.....	176	6	4	do.....	25,000
San Gregorio.....	65	5	2	do.....	20,000
Purissima.....	30	4	1	do.....	15,000
Montara.....	112	5	1	do.....	25,000
Total.....	4,347	120	24	.....	147,000

III. THE COST OF THE PROPOSED SYSTEM.

The total expenditure for elementary education in the county during the year 1912-13 was \$218,098.50. This was distributed as follows:

Salaries of 130 teachers.....	\$107,334.75
Salaries of 6 principals.....	11,100.00
Janitors, supplies, etc.....	45,085.19
Buildings and sites.....	52,461.62
Library books.....	2,116.94
Total.....	218,098.50

Each of these items will be taken separately for purposes of comparison with the proposed system.

SALARIES.

It will be seen that the greater portion of the expenditure for the elementary schools is for teachers' and principals' salaries. It will also be seen by the table on page 42 that the proposed system has

increased the number of principals from 6 to 13, and has decreased the number of teachers from 130 to 107. The following table compares the two systems in the expenditure for salaries:

Under present system:

Salaries of 130 teachers (average \$825)-----	\$107, 334
Salaries of 6 principals (see preceding table)-----	11, 100

Total-----	\$118, 434
------------	------------

Under proposed plan:

Salaries of 107 teachers (average \$825)-----	88, 275
Salaries of 6 principals above-----	11, 100
Salaries of 7 additional principals (average \$1,500)-----	10, 500

Total-----	109, 875
------------	----------

Saving annually by proposed plan-----	8, 559
---------------------------------------	--------

JANITORS AND SUPPLIES.

The present expenditure for janitors in most schools is insufficient, and the poor service resulting from this has been pointed out in the survey of the rural schools. The janitor is said to be, next to the principal, the most important officer in the school. To secure good service, and to insure healthful and sanitary conditions, requires an expenditure, which, when well directed, is the very essence of economy. To employ one of the older boys in the school to build the fires and occasionally sweep out, while much more humane than leaving the burden with an overworked teacher, is a bad investment for the community.

The proposed system will require the services of 20 janitors, and it is proposed that they be paid an average salary of \$800 per year. Each will, of course, be under the supervision of a principal.

The amount now expended for supplies is not kept in a separate account, and the exact sum is not known. Nevertheless it is small and is divided among 36 school districts. It is assumed that \$1,000 for each school per year will be an ample average. This is to be distributed by the superintendent of schools according to the needs of each school.

Expenditure for janitors and supplies:

Present expenditure-----	\$45, 085
--------------------------	-----------

Proposed expenditure—

20 janitors, at \$800-----	\$16, 000
Supplies, at \$1,000 per school-----	13, 000

Total-----	29, 000
------------	---------

BUILDINGS AND SITES.

The expenditures for buildings and sites for elementary schools in the county for the past eight years are given in the following table:

1906-7-----	\$35, 269	1910-11-----	\$85, 987
1907-8-----	36, 386	1911-12-----	25, 408
1908-9-----	41, 216	1912-13-----	52, 461
1909-10-----	36, 938	1913-14 (to date)-----	101, 500

This gives an average annual expenditure, since 1906, of approximately \$52,000 for this purpose. The amount will probably be greatly increased during the next few years, as many of the old district buildings must be replaced.

It will be fair to assume, then, for purposes of comparison, that during the next 10 years the expenditure for buildings and sites will be at least equal to the average above and will be not less than \$520,000 during the decade.

The proposed plan, as outlined in Section II, calls for six new buildings and additions to present buildings, involving an expenditure of \$147,000. During the 10 years these buildings would need practically no change or repair. There would, however, need to be a few new buildings and additions, owing to the increased population. Allowing for these the sum of \$200,000, without considering the increased value of property, which would permit of even larger expenditure, there is still a saving to the county:

Under present system:

Expenditure for 10 years (average, \$52,000)----- \$520, 000

Under proposed plan:

Cost of six new buildings----- \$130, 000

Cost of new additions----- 17, 000

New buildings during 10 years----- 200, 000

Proposed expenditure for 10 years----- 347, 000

Saving the county----- 173, 000

TRANSPORTATION OF PUPILS.

This is the greatest item of continuous expense in the proposed plan. As has already been shown, the securing of the right educational opportunities for all the children of the county will necessitate, instead of one small school in each small community, the enlargement of communities and the provision for each of a large, well-equipped school with a principal and several teachers.

Since these schools can not be within walking distance from all the homes they will serve, it is proposed that all children living at a greater distance be given means of transportation, free of all charge to themselves or their parents.

Free transportation of pupils to and from schools has been clearly demonstrated in various parts of the United States to be the means by which a practical, economical, and modern solution of one of the greatest rural problems may be provided.

There are several methods in use in different parts of the United States for the transportation of pupils. In Illinois a common plan is for the school to employ some one in the community to carry the pupils in a vehicle provided by himself and pay him at a certain rate per day, per hour, or per pupil. It requires of his time from two to four hours per day, and he is paid from \$1.50 to \$2 for each day he renders service. He is free to do any work he may wish to do for the remainder of each day.

In some places pupils secure commutation tickets on railroads or trolley lines. This method is now in use by pupils of the union high schools at Half Moon Bay and Redwood City. The cost of this for pupils living at the greatest distance from the school is \$2.80 per month, or about 14 cents per day.

In Imperial County, Cal., one consolidated school has arranged with an enterprising young man who owns an autotruck to carry the pupils to and from the school at 15 cents per day per pupil. He received last year about \$100 per month from the school and had the use of his machine for the remainder of the day and on Saturdays for carrying freight, delivering milk, etc. He received a very substantial income from his investment, increased the attendance of the school, and set up a means of travel in the community which was beneficial in many other ways.

In Ohio, Indiana, and other States the county or township purchases and maintains wagons or automobiles for transportation and other school purposes. The investment once made, the cost for upkeep is small in proportion to the amount of service rendered. These vehicles can be used for hauling, and are often a paying investment for the school rather than a burden of expense. A good, wide-awake principal, with an interested and enthusiastic group of farmers' boys, can easily make the expenditure worth while in many ways.¹

There will be proposed three definite ways by which San Mateo County might furnish transportation for pupils under the plan of consolidation:

Plan I. Under this plan the county will allow to each school the sum of 15 cents per pupil per day, and each principal will be authorized to secure transportation for the pupils in any available way; 15 cents per day is a common average, and permits of either employing a driver with his own vehicle or of railroad or electric car transportation. This amount will be sufficient to pay a driver \$3 per day to carry 20 pupils or will buy commutation tickets for 24

¹ For methods of consolidation see bulletin of the Bureau of Education, 1914, No. 30,

pupils at \$2.50 per month each. Local conditions would, no doubt, in many cases provide means yet more practical and economical.

Plan II. The county shall employ men in the vicinity of each school to transport the pupils, each driver to receive not more than \$3 per day. This will require the services of 24 men. The drivers are to be free during the entire day to do whatever they wish, but to be responsible to the superintendent of schools for carrying the pupils.

Plan III. The county under this plan would purchase 24 automobile busses to be distributed as proposed (p. 41). These should be purchased for approximately \$2,000 each. Drivers should be employed by the county at an estimated cost of \$50 per month each, and all expense of upkeep should be paid by the county.

The cost of each of these plans is shown by the following tables. This is on the basis of 502 pupils, as will be shown later.

ESTIMATED COSTS OF VARIOUS PLANS OF TRANSPORTATION.

Plan I:

502 pupils at 15 cents per day-----	\$75. 30
200 days (10 months) at \$75.30-----	\$15, 060

Plan II:

24 drivers at \$3 each per day-----	\$72. 00
200 days at \$72-----	14, 400

Plan III:

24 automobile busses at \$2,000 each, owned by the county_	\$48, 000
24 drivers at \$50 per month (calculated for 10 months)---	12, 000
Upkeep 24 machines at \$30 per month-----	7, 200
Total cost per year, not including investment-----	19, 200

The total annual cost, then, of each of the three plans is as follows: Plan I, \$15,060; Plan II, \$14,400; Plan III, \$19,200.

Which of these plans should be adopted, or to what extent each should be used, would be a matter for the people of the county to decide. It is probable that under the proposed system of consolidation shown here all three methods would be in use in the county.

For purposes of estimating costs, etc., however, it will be assumed that the board of education would wish to purchase at least 10 auto-busses under Plan III, and that the remainder of the transportation be brought about under Plans II and I.

It will be fair, then, to estimate the cost of transportation at \$16,000 per year. Still there is no question but that the superintendent of schools and the principal, as well as the people of the community, could bring this cost down to a nominal figure.

The following table summarizes the probable status of transportation following out the proposed plans:

Transportation of pupils.

Schools.	Number of pupils to transport.	Number of wagons needed.	Other means of transportation.
South San Francisco.....	20	1	Electric railroad.
San Bruno.....	50	1	Railroad.
San Mateo.....	22	1	Do.
Redwood City.....	50	2	Do.
Menlo Park.....	40	2	
Half Moon.....	60	3	Do.
Jefferson.....	20	1	Do.
Woodside.....	40	2	
La Honda.....	40	3	
Pescadero.....	60	4	
San Gregorio.....	40	2	
Purissima.....	20	1	
Montara.....	40	1	Do.
Total.....	502	24	

It should be stated at this point that no pupil under the suggested plan will need to attend an elementary school at a distance of more than 6 miles from his home, and in all cases he is to be transported free by the county.

THE ABANDONED SCHOOLS.

The foregoing plan of consolidation permits of the abandonment of 23 schools, and would lead to the subsequent disposal of buildings and grounds. The following table summarizes this asset:

Disposal of buildings and grounds after consolidation of schools.

Names of schools.	Number of pupils.	Value of property.		Pupils would be transported to—
		Buildings.	Grounds	
Alpine.....	10	\$450	.....	La Honda.
Bell.....	19	1,500	\$300	Do.
Belmont.....	50	2,000	6,000	Redwood City.
Higgins.....	14	800	200	Purissima.
Hillsborough.....	22	0	0	San Mateo.
Laguna.....	10	0	500	San Mateo and Half Moon Bay.
Las Lomitas.....	20	3,100	1,200	Menlo Park.
Millbrae.....	30	1,000	1,500	San Mateo.
Lomita Park.....	50	5,000	1,500	San Bruno.
Mirimar.....	42	5,000	2,500	Half Moon Bay.
Pigeon Point.....	21	650	150	Pescadero.
Pilarcitos.....	21	500	200	Half Moon Bay.
Pomponio.....	20	700	100	Pescadero.
Portola.....	50	7,600	2,500	Woodside.
Ravenswood.....	13	1,600	900	Menlo Park.
San Gregorio.....	14	400	200	San Gregorio.
San Pedro.....	17	6,250	1,000	Jefferson.
Sunnyside.....	10	800	100	Pescadero.
Tobin.....	17	0	0	Montara.
Tunis.....	19	1,400	200	San Gregorio.
Visitacion.....	13	50	200	South San Francisco.
West Union.....	10	100	100	Redwood City.
Wurr.....	10	800	100	La Honda.
Total.....	502	39,700	19,450	

The figures for the value of buildings and grounds as given in this table are the official values of the buildings and grounds at present, as recorded in the county offices. The buildings, of course, could not be sold for the values here given; but it should be fair to estimate the immediate selling value of all buildings and grounds to be abandoned at \$40,000.

The proposed system would cost, for maintenance, approximately \$199,575 per year, as estimated in the foregoing pages. This may be summarized as follows:

Cost of maintenance of proposed system.

Salaries of teachers and principals.....	\$109, 875
Salaries of janitors.....	16, 000
Transportation of pupils.....	16, 000
Supplies	20, 000
Library books (estimated).....	3, 000
Buildings (one-tenth cost).....	34, 700
<hr/>	
Total annual cost.....	199, 575
Total annual cost of present system.....	218, 098
<hr/>	
Annual saving of proposed system.....	18, 523

There remain yet to be purchased, however, on the basis of the plan adopted for transportation, 10 automobile busses at \$2,000 each. This is an expenditure of \$20,000. It seems certain that these could be easily provided by the county, when their salable abandoned property amounts to \$40,000.

The office of superintendent of schools should, under the suggested plan, be maintained as at present by means of appropriations from the general fund of the county. But, inasmuch as increased expenditure is asked, it may be well to include the expense of administration in the cost of the system.

Annual saving of proposed system.....	\$18, 523
Salary of superintendent.....	\$3, 500
Salary of deputy superintendent.....	2, 000
Salary of assistant superintendent.....	1, 500
Salary of clerk.....	800
<hr/>	
Total	7, 800
<hr/>	
Net amount saved annually.....	10, 723

It has not been the purpose of this study to show a cheaper system than the present one or to urge its adoption because of less cost than the county now expends. To put education on a commercial basis and buy it at the lowest possible figure is not consistent with the American spirit of progress. The reorganization has been suggested as a means to better educational efficiency, and the cost

of maintaining it is less than the present expenditure only because the money is more economically spent. The small, one-teacher schools and the drawing of narrow district lines about them is clearly as expensive as it is undemocratic and unjust.

The right kind of education for the children of San Mateo County or of any other locality can not be cheaply bought. It would be only to the economic and social welfare of the community if the expense of better schools were much greater than the present cost of their district system.

The writer herewith submits, after carefully considering all conditions and possibilities, the proposed system of consolidated schools for the people of San Mateo County. These are all to be modern, sanitary, well equipped, and beyond comparison with the present schools in efficiency and practical value. Yet the cost will be even less than the amount now expended.

IV. SUGGESTIONS CONCERNING HIGH SCHOOLS.

The map on page 23 shows the location of the present high schools. As has been said, the practical value of consolidation has been shown in these institutions, and all are doing commendable work.

It will be seen, however, that but three of the high schools are entirely organized, and that the southwestern and central portions of the county are not provided for. It can not be expected that children from these communities will come as far as Half Moon Bay or Redwood City to attend high school, and those institutions would not in any way be drawn upon if secondary school advantages were placed within reach of them.

The expense of this would of necessity be additional to the expenditure required for the elementary school system proposed, but the rural children who live in the southern part should not be deprived of equal high-school advantages with the children of the northern part because of the cost.

Suggestions have already been made concerning the attendance of high schools in San Francisco for the children of the northwestern portion of the county.

The following proposals are offered:

1. That all the present high schools and all others to be established be under the direction of the county board of education and the superintendent of schools as herein prescribed.

2. That the school at South San Francisco be made a complete four-year high school, and at least two additional teachers employed.

3. That a new four-year county high school be established at Pescadero.

4. That an intermediate school for the eighth, ninth, and tenth years be established in connection with the consolidated rural school proposed for La Honda.

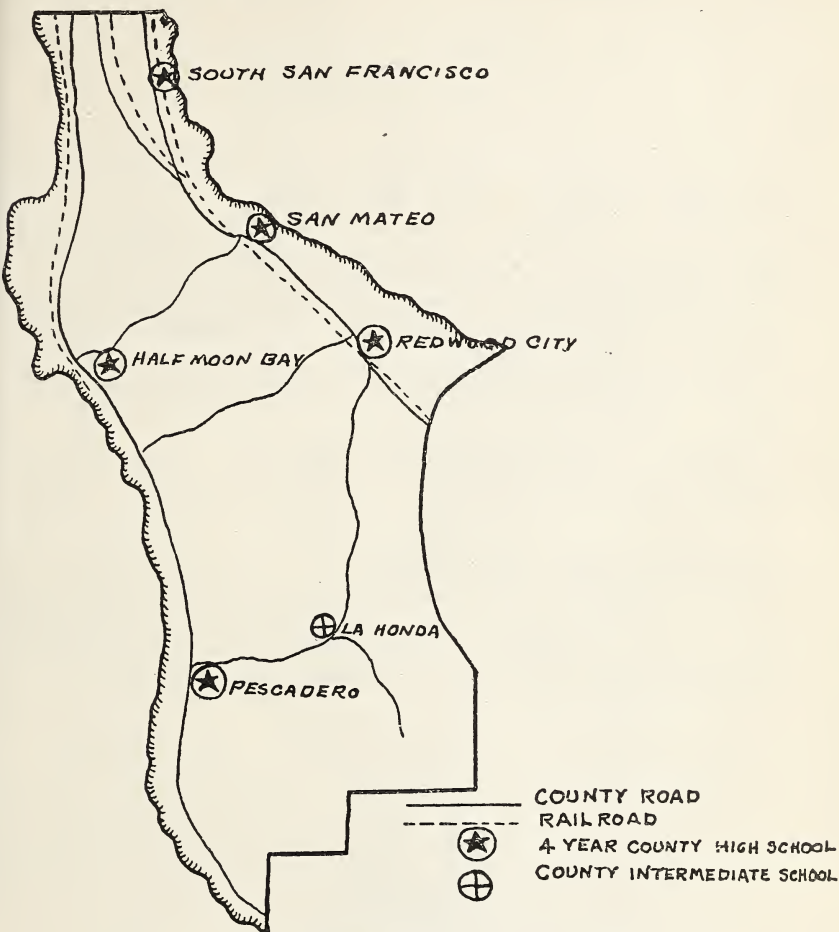


CHART 15.—Suggested plan for high schools.

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THE WISCONSIN COUNTY TRAINING
SCHOOLS FOR TEACHERS IN
RURAL SCHOOLS

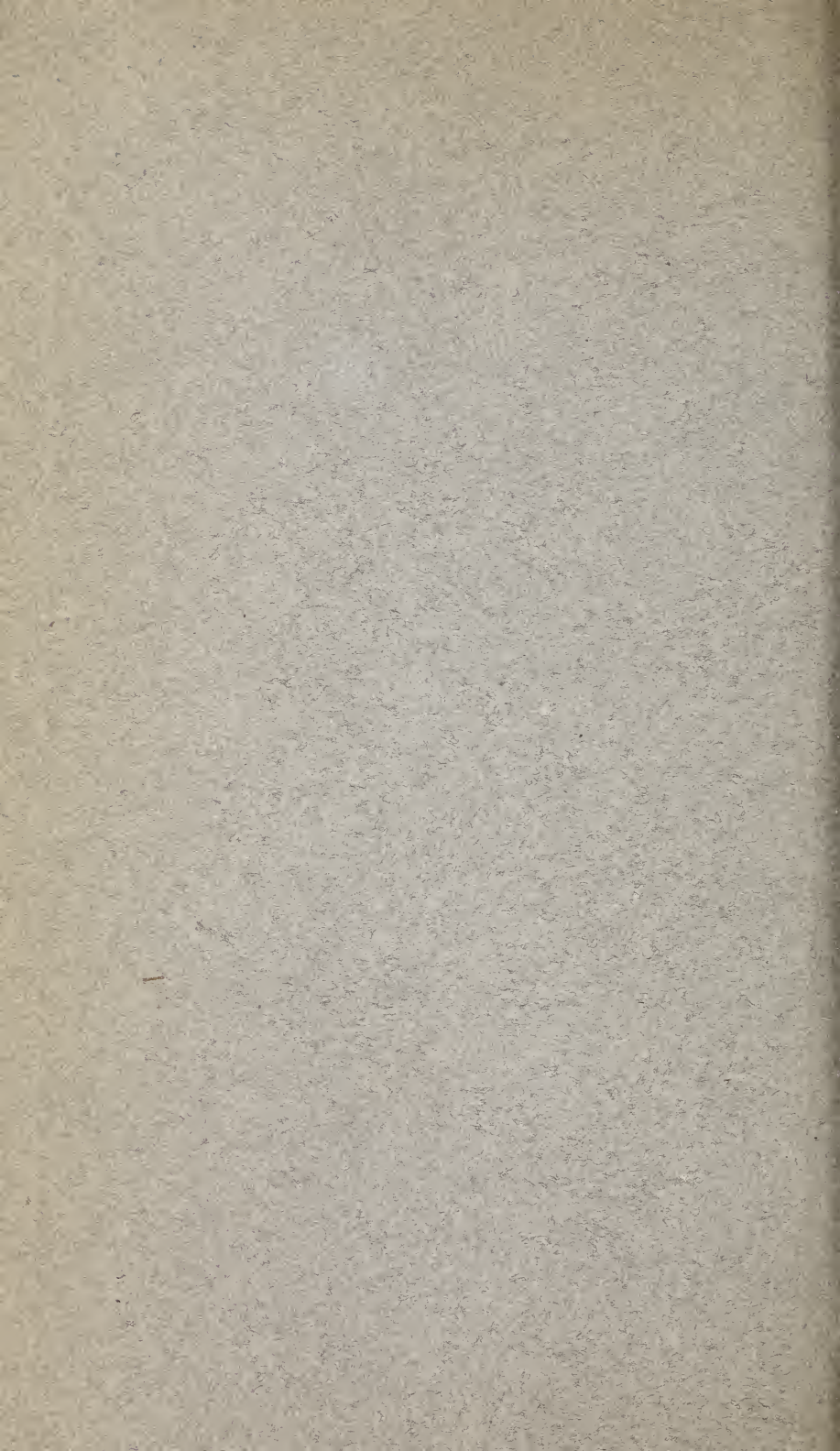
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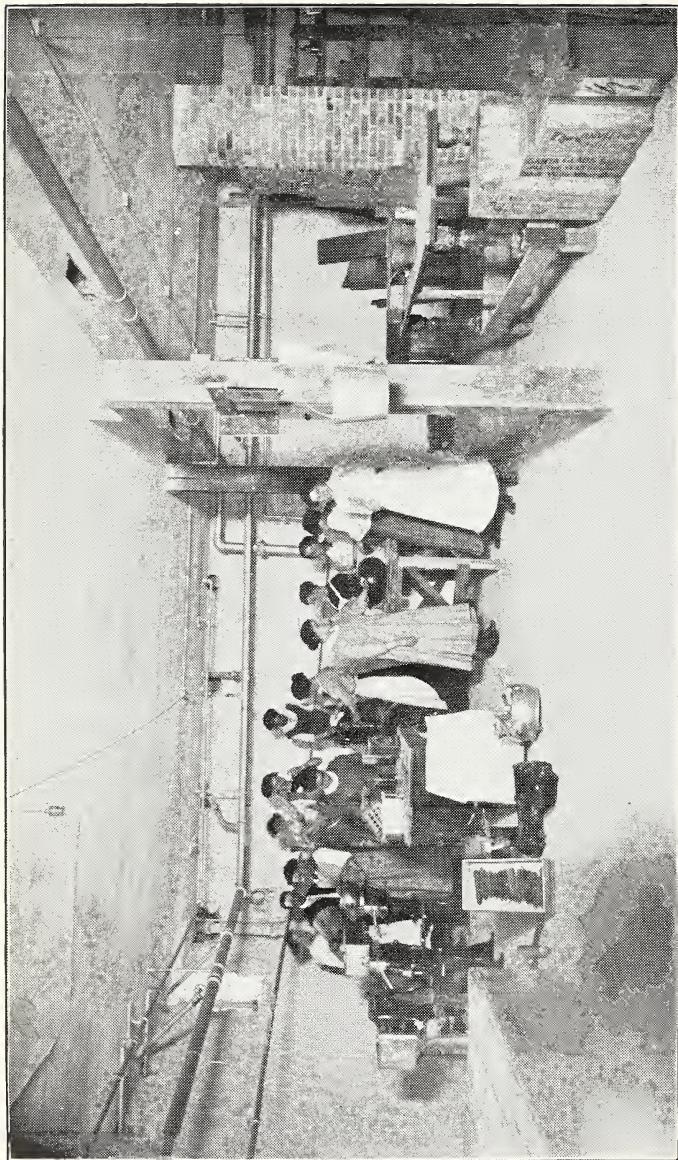
W. E. LARSON

STATE RURAL SCHOOL INSPECTOR, DEPARTMENT OF
EDUCATION, MADISON, WIS.



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ONEIDA COUNTY TRAINING SCHOOL.
A corner in the Agricultural Laboratory.

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THE WISCONSIN COUNTY TRAINING SCHOOLS FOR TEACHERS IN RURAL SCHOOLS.

HISTORICAL STATEMENT.

The movement in Wisconsin for the establishment of schools having for their special object the preparation of teachers for country schools began in the early nineties. There was considerable discussion of the matter during the following six or eight years, and finally, in 1899, a law was enacted by the legislature giving "the county board of supervisors of any county within which a State normal school is not located the authority to appropriate money for the organization, equipment, and maintenance of a county training school for teachers of the common schools."

The law of 1899 limited the number of training schools that might be established to two. All control of the school was placed in the hands of a county training school board consisting of three members, one of whom should be the county superintendent of schools, the other two elected by the county board for a term of three years. The State superintendent was given supervision over the schools and was required to prescribe the course of study and to determine the qualifications of the teachers. The school was to be maintained at least 10 months during the year, and the secretary of the training school board (the county superintendent) was required to make a report at the end of the school year, setting forth the facts relating to the cost of maintaining the school, the character of the work done, etc. Upon the receipt of this report the State superintendent was to make a certificate to the effect that the training school had been maintained according to law and to file such certificate with the secretary of state. A warrant was then drawn payable to the county treasurer "for a sum equal to one-half the amount actually expended for instruction in such school during the year, providing that the total amount so apportioned shall not exceed \$2,500 in any year."

The first two counties to avail themselves of the opportunity of establishing a county training school were Marathon and Dunn. Schools were accordingly established at Wausau and Menomonie. At Wausau 56 students were enrolled during the school year 1899-1900 and 57 at Menomonie. During the school year 1900-1901 Menomonie enrolled 58 and Wausau 76. When the legislature met in 1901 the law of 1899 was amended so that six such

schools might be organized in the State. A section was also added to the law providing for the certification of the graduates of the training schools.

In 1901 a training school was organized in Manitowoc County, and this was followed in 1902 by the organization of training schools in Waupaca, Buffalo, and Richland Counties, thus making the total of six schools authorized in the State.

The legislature of 1903 further increased the number of schools that might be established from six to eight. A provision was added in that year to make it possible for two counties to organize a training school jointly. A section was also added providing that nonresident students might attend and their tuition be paid by the counties in which they lived.

As soon as an opportunity was offered for establishing more training schools, Wood County made application, and a school was organized at Grand Rapids in 1903.

When the legislature met in 1905 the number of possible training schools was increased from 8 to 12, and an amendment was also made to the law providing that—

the secretary of state shall draw his warrant, payable to the treasurer of the county maintaining such school, for a sum equal to two-thirds the amount actually expended for maintaining such school during the year, provided that the total amount so apportioned shall not exceed \$3,500 in any one school year.

A provision was also added to the effect that, in case the graduate of a training school had never taught, he should be given a certificate having full force and effect for one year only from the date of issue. When this graduate furnishes evidence of at least one year of successful teaching the county superintendent will certify to that fact by signing the training school certificate, thus making it effective for two additional years.

In September, 1905, Eau Claire, Marinette, and Polk Counties established training schools. In 1906 Lincoln and Sauk Counties made application, thus completing the number authorized by the legislature.

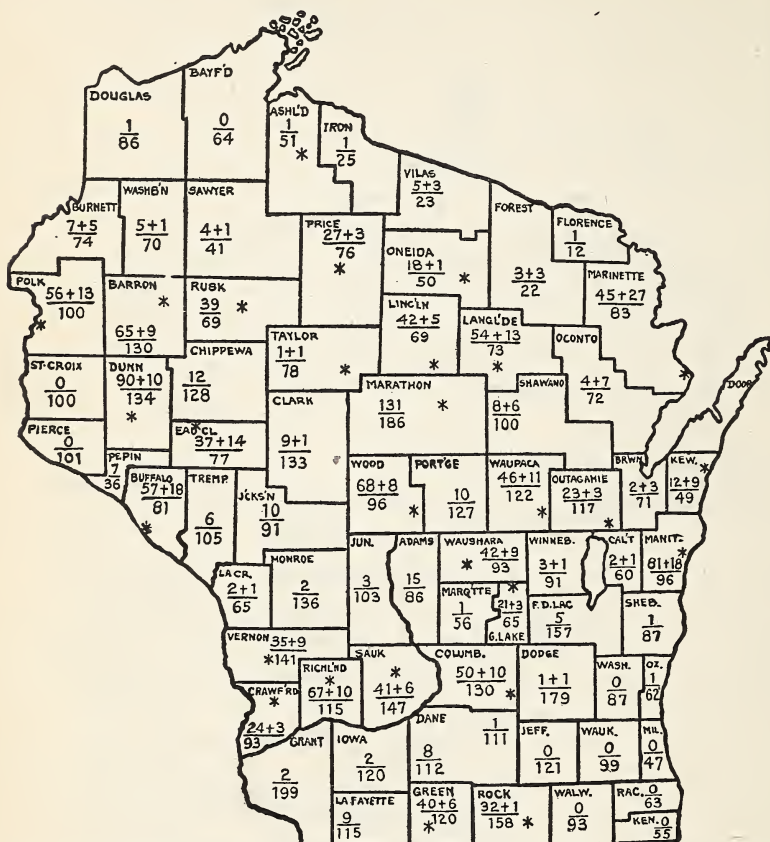
The legislature of 1907 extended the number of training schools that might be organized from 12 to 20 and further provided legal qualifications for teachers in the county training schools. The provision made in this respect was that no person should be employed as a teacher in a training school who was not legally qualified for the position of principal of a free high school having a four-year course of study. This provision did not apply to teachers then engaged in the work. A further restriction was enacted providing that no member of any county training school board should be employed either as principal or as assistant during the term for which he was elected or appointed as a member of the board.

In 1907 four counties made application for the establishment of training schools, namely, Barron, Lincoln, Rusk, and Vernon. The following year Columbia, Crawford, and Waushara Counties established schools. In that year there was also established a joint training school by Door and Kewaunee Counties, at Algoma. Twenty schools were now in operation, and no other schools could be organized until the legislature had taken action.



Rock County established its training school in the fall of 1911, and Taylor and Outagamie Counties followed in 1912.

When the legislature met in 1913 the number of possible training schools was increased from 30 to 33. At present there are 28 schools in operation, Ashland County having established one in 1914.



Map of Wisconsin showing the distribution of training schools and training-school graduates throughout the State. The number below the line indicates the number of one-room country schools in the county; the first number above the line indicates the number of one-room country schools taught by training-school graduates; and the second number above the line indicates the number of graded positions held by training-school graduates. The stars indicate the location of the 28 training schools.

The legislature of 1913 also passed two other amendments. Regarding State aid for these schools, the law now provides that instead of paying "a sum equal to *two-thirds* the amount actually expended for maintaining such school during the year," the State pays—

an amount equal to the sum expended for the wages of duly approved or qualified teachers in the school for at least 10 months during the school year, provided that a school employing two teachers shall not receive to exceed \$3,000, and a school employing three or more teachers shall not receive to exceed \$3,500 in any one school year.

The other changes relate to the matter of the training-school certificate.

In 1915 the basis of apportioning the State aid was changed from 10 months to 9 months. The schools now receive a sum equal to the amount spent for teachers' wages, limited to \$3,000 for schools having two teachers and \$4,000 for schools having three or more teachers. If schools are maintained more than 9 months, additional aid is granted. A special appropriation may also be secured under certain conditions in case a regular course in domestic science is adopted and a qualified teacher secured for the work.

In 1916 Racine and Juneau Counties voted to establish training schools. These begin their work in September, 1916, making the total number 30 for the State.

County training schools for teachers.¹

Counties.	Location of school.	Established.	Principal.
Ashtland.....	Mellen.....	1914	C. E. Hulten.
Barron.....	Rice Lake.....	1907	Grant E. Pratt.
Buffalo.....	Alma.....	1902	H. H. Liebenberg.
Columbia.....	Columbus.....	1908	S. M. Thomas.
Crawford.....	Gays Mills.....	1908	B. W. Weenink.
Door-Kewaunee.....	Algoma.....	1908	J. A. Eichinger.
Dunn.....	Menomonie.....	1899	G. L. Bowman.
Eau Claire.....	Eau Claire.....	1905	F. E. Jaastad.
Green.....	Monroe.....	1909	C. H. Dietz.
Green Lake.....	Berlin.....	1909	C. D. Lamberton.
Langlade.....	Antigo.....	1906	W. E. Switzer.
Lincoln.....	Merrill.....	1907	E. W. McCrary.
Manitowoc.....	Manitowoc.....	1901	Fred Christiansen.
Marathon.....	Wausau.....	1899	Randall Johnson.
Marinette.....	Marinette.....	1905	A. M. Olson.
Oneida.....	Rhineland.....	1910	B. Mack Dresden.
Outagamie.....	South Kaukauna.....	1912	John E. Hale.
Polk.....	St. Croix Falls.....	1905	C. W. Monty.
Price.....	Phillips.....	1909	George R. Ray.
Richland.....	Richland Center.....	1902	L. C. Johnson.
Rock.....	Janesville.....	1911	Frank J. Lowth.
Rusk.....	Ladysmith.....	1907	R. H. Burns.
Sauk.....	Reedsburg.....	1906	W. E. Smith.
Taylor.....	Medford.....	1912	Jerome H. Wheelock.
Vernon.....	Viroqua.....	1907	A. E. Smith.
Waupaca.....	New London.....	1902	C. B. Stanley.
Waushara.....	Wautoma.....	1908	G. E. Dafoe.
Wood.....	Grand Rapids.....	1903	M. H. Jackson.

¹ Two new schools were established in 1916: Juneau County, New Lisbon, C. W. McNown, principal, and Racine County, Union Grove, A. J. Smith, principal.

Enrollment by years.

Counties.	1899-1900	1900-1901	1901-2	1902-3	1903-4	1904-5	1905-6	1906-7	1907-8	1908-9	1909-10	1910-11	1911-12	1912-13	1913-14
Barron.....									41	80	67	63	62	68	70
Buffalo.....				49	56	43	40	36	43	42	44	46	48	50	49
Columbia.....										33	52	1 260	47	62	51
Crawford.....										31	37	24	37	36	34
Door-Kewaunee.....										52	50	55	50	57	46
Dunn.....	57	58	80	81	74	100	95	80	89	88	92	86	86	86	77
Eau Claire.....							59	68	75	77	76	60	75	77	82
Green.....											49	56	63	58	42
Green Lake.....											62	2 104	62	1100	64

¹ Including enrollment at summer session.

² Including enrollment at the summer session. In Green Lake County the regular term began early, and a considerable number enrolled for the first six weeks.

Enrollment by years—Continued.

Counties.	1899-1900	1900-1901	1901-2	1902-3	1903-4	1904-5	1905-6	1906-7	1907-8	1908-9	1909-10	1910-11	1911-12	1912-13	1913-14
Langlade.....								48	46	50	42	43	42	39	42
Lincoln.....								74	74	57	72	63	54	38	33
Manitowoc.....			48	49	50	50	51	52	56	52	52	54	56	52	45
Marathon.....	56	76	36	70	69	71	64	80	72	71	71	73	61	83	85
Marinette.....							52	60	65	70	59	50	62	63	62
Oneida.....												25	57	62	52
Outagamie.....														31	42
Polk.....							38	43	38	51	49	36	41	41	47
Price.....											45	41	44	42	40
Richland.....				60	58	56	56	50	67	59	66	85	68	52	63
Rock.....													28	36	30
Rusk.....									45	45	42	38	52	37	45
Sauk.....								60	53	72	59	47	37	48	43
Taylor.....														28	39
Vernon.....														69	59
Waupaca.....				19	38	38	41	43	54	68	59	53	62	41	45
Waushara.....									48	53	55	66	56	44	37
Wood.....					51	53	55	55	23	29	39	44	43	80	89
Wood.....								61	71	79	86				
Total ¹	113	134	164	328	396	411	551	675	927	1,145	1,308	1,553	1,390	1,479	1,413

¹ Total enrollment during the year 1914-15 for the 28 schools was 1,518.*Financial data.*

County training schools.	Assessed valuation of county, 1914.	Total expenditures, 1913-14.	Salaries, 1913-14.		Per capita cost of instruction, 1913-14.	Teachers employed, 1913-14.	State apportionment, 1913.	County levy, 1913.	Number of nonresidents or tuition students, 1913-14.
			Principal.	Total to assistants.					
Barron.....	\$25,240,753	\$4,711	\$1,850	\$2,100	\$56.43	3	\$3,500	\$1,700	10
Buffalo.....	19,500,044	5,689	1,800	2,150	80.61	3	2,950	1,850	3
Columbia.....	48,912,947	7,211	2,000	3,000	98.04	4	3,500	2,500	6
Crawford.....	15,761,609	3,125	1,800	850	77.94	2	2,800	500	2
Door.....	19,017,330	12,268	1,800	2,400	91.30	3	3,500	5,550	3
Kewaunee.....	21,909,902								
Dunn.....	25,435,782	7,905	2,200	3,050	68.18	4	3,500	3,786	8
Eau Claire.....	29,944,308	5,141	1,900	2,200	50.00	3	3,500	2,500	30
Green.....	48,100,240	5,446	2,050	2,400	105.95	3	3,500	1,500	8
Green Lake.....	23,784,833	5,968	2,250	2,310	71.25	3	3,500	1,500	21
Langlade.....	19,762,551	3,639	1,700	1,300	71.43	2	3,050	1,500	2
Lincoln.....	18,767,309	5,821	2,000	2,100	124.24	3	3,500	2,500	1
Manitowoc.....	59,304,517	4,816	2,000	2,350	96.66	3	3,500	2,000	1
Marathon.....	54,279,255	6,151	2,000	2,700	57.32	3	3,500	3,000	0
Marinette.....	27,901,372	6,112	2,000	2,200	67.74	3	3,500	2,000	13
Oneida.....	13,669,089	4,073	1,800	900	51.92	2	3,500	1,800	1
Outagamie.....	58,796,161	5,262	1,700	1,700	80.95	3	3,600	2,451	10
Polk.....	22,682,006	5,199	1,600	1,100	57.45	2	2,970	2,000	2
Price.....	14,103,401	4,211	1,800	1,250	76.25	2	2,750	1,500	0
Richland.....	25,667,308	6,512	2,000	3,215	79.01	5	3,500	2,275	2
Rock.....	87,741,842	4,524	1,800	1,180	99.33	2	2,800	2,000	1
Rusk.....	12,295,284	4,993	1,800	1,750	78.88	3	3,500	1,500	4
Sauk.....	47,163,722	7,697	1,800	2,880	108.88	4	3,500	4,000	13
Taylor.....	14,751,631	5,117	1,700	1,300	76.92	2	3,000	1,800	2
Vernon.....	31,518,043	4,553	1,800	1,000	47.28	2	3,000	1,500	10
Waupaca.....	34,739,083	4,612	1,700	2,000	82.22	3	3,500		6
Waushara.....	19,613,077	3,467	1,650	1,000	71.62	2	2,550	1,000	2
Wood.....	31,093,572	6,941	2,100	2,050	46.63	3	3,500	3,500	17
Total ²	871,456,971	151,165	50,600	52,435	.....	77	87,970	57,712	168
Average.....	32,276,184	5,599	1,874	1,019	72.92	....	3,258	2,138	....

¹ Data for 1912-13.² The total expenditures for 1914-15 were \$158,113; salaries of principals, \$51,705; State apportionment, \$88,921; county levy, \$57,321.

THE COUNTY TRAINING-SCHOOL LAW.

The law providing for the establishment of county training schools for teachers in rural schools reads as follows:

How organized. Section 411—1. The county board of any county within which a State normal school is not located is hereby authorized to appropriate money for the organization, equipment, and maintenance of a county training school for teachers of the common schools. (1903 c. 338.)

Board for; appointments, vacancies, bond, organization. Section 411—2. A board to be known as the county training school board is hereby created, who shall have charge and control of all matters pertaining to the organization, equipment, and maintenance of such school, except as otherwise provided by law. Said board shall consist of three members, one of whom shall be the county superintendent of schools of the county or district in which the school is located. The other members of the board shall be elected by the county board, for the term of three years from the date of their election. Vacancies existing in the board, from whatever cause, except in the case of the county superintendent, shall be filled by appointment made by the chairman of the county board, if the county board is not in session when such vacancy occurs. If the county board is in session, vacancies shall be filled by election by said board for the unexpired term. Appointments made by the chairman of the county board, as hereinbefore specified, shall be for the time to elapse until the next regular meeting of the county board. Each person appointed or created a member of the county training school board shall, within 10 days after the notice of such appointment, take and subscribe an oath to support the Constitution of the United States and the constitution of Wisconsin, and honestly, faithfully, and impartially to discharge his duties as a member of said board, to the best of his ability, which oath shall be filed in the office of the county clerk. He shall also, within the same time, file a bond in such sum as may be fixed by the county board, which bond shall be filed in the office of the county clerk. Within 15 days after the appointment of said board, the members thereof shall meet and organize by electing one of their number as president and one as treasurer; the county superintendent of schools shall be ex officio secretary of the said board. The said board shall prescribe the duties of the several officers, except as fixed by law.

Moneys for; how paid. Section 411—3. All moneys appropriated and expended under the provisions of this act shall be expended by the county training school board, and shall be paid by the county treasurer on orders issued by said board.

Number that may be organized. Section 411—4. The State superintendent shall give such information and assistance as may seem necessary in organizing and maintaining such training schools. He shall prescribe the course of study to be pursued; shall have the general supervision of all schools established under this section; shall from time to time inspect the same, make such recommendations relating to their management as he may deem necessary, and make such reports thereon as shall give full information concerning their number, character, and efficiency; provided, that he shall not place upon the said list more than 33 schools. (1913 c. 259.)

Accredited list; report; State aid. Section 411—5. 1. Any school established under the provisions of this act whose courses of study and the qualifications of whose teachers have been approved by the State superintendent may, upon application, be placed upon an approved list of county training schools for teachers. A school once entered upon such list may remain listed and be

entitled to State aid so long as the scope and character of its work are maintained in such manner as to meet the approval of the State superintendent; provided, that he shall not place upon said list more than 30 schools. On the 1st day of July in each year the secretary of each county training school board maintaining a school on the approved list shall report to the State superintendent setting forth the facts relating to the cost of maintaining the school, the character of the work done, the number and the names of teachers employed, and such other matters as may be required.

Certificate; warrant. 2. Upon the receipt of such report, if it shall appear that the school has been maintained in a satisfactory manner for a period of not less than nine months during the year closing on the 30th day of the preceding June, the said superintendent shall make a certificate to that effect and file it with the secretary of state. Upon receiving such certificate the secretary of state shall draw his warrant, payable to the treasurer of the county maintaining such school, or in case such school is maintained by two or more counties such warrant shall be payable to the treasurer of such school for an amount equal to the sum expended for the wages of duly approved and qualified teachers employed in the school for at least nine months during the school year, provided that a school employing two teachers shall not receive to exceed \$3,000, and a school employing three or more teachers shall not receive to exceed \$4,000 for said nine months. Any county training school for teachers which maintains its school for more than nine months during any school year shall receive for such additional time a sum of money from the State which shall be in the same proportion to the sum received from the State for nine months as the additional time for which the school is conducted over the nine months is to the nine months. Payments made under this section shall be charged to the appropriation provided in section 172—59.

3. Any school established under the provisions of sections 411—1 to 411—11, inclusive, that will adopt a course of study in domestic science and employ a qualified teacher approved by the State superintendent shall be entitled to receive, in addition to the State aid mentioned in subsection 2 of section 411—5, \$250 annually, to be paid in the same manner as other State aid is paid to schools established under sections 411—1 to 411—11, inclusive, of the statutes. (1915 c. 292, 448.)

County training school certificates; value of. Section 411—6. 1. Any person who shall complete in a satisfactory manner the course of study prescribed for any county training school, and who shall be of good moral character, shall receive a certificate signed by the principal of the school and by the members of the county training school board. Said certificate shall certify that the person named herein has satisfactorily completed the course of study prescribed for the county training school, and is of good moral character; it shall also contain a list of the standings secured by the person on the completion of each of the studies pursued in the school.

2. Such * * * certificates shall qualify the holder to teach in any common school in the county under the jurisdiction of the county superintendent of schools in which the county training school is located for a term of three years from the date of its issuance; provided, that in case the holder of the certificate shall not have had at least one year of successful experience he shall not be qualified to act as principal of a second-class State graded school, nor shall he be eligible to teach in any position for which a State certificate shall be required by law; provided, that in case the holder thereof has never taught, or can not furnish satisfactory evidence of having successfully taught for at least one school year (seven months) in the public schools of this State, said

certificate shall be of full force and effect for one year only from its date of issue.

3. When satisfactory evidence of successful teaching for at least one year (seven months) upon said training school certificate shall be furnished to the county or district superintendent, said superintendent shall remove the limitation, whereupon the training school certificate shall have full force and effect for two additional years.

4. Be it further provided that in case the holder of a county teacher's training school certificate shall have completed a four-year high-school course, and shall have taught successfully for at least seven school months, said certificate shall, when countersigned by the county or district superintendent, legally qualify the holder to teach for a period of five years from the date when such certificate was granted, and shall also be a legal qualification to teach in any department of any State graded school, the principalship of a State graded school of the first class excepted.

* * * 5. Any school superintendent or officer authorized to grant certificates to teachers in Wisconsin schools is hereby authorized, in his discretion, to accept standings obtained by the completion of studies in any county training school in the State, when duly certified by the principal of said school, in lieu of actual examination by said superintendent or examiner at any time within three years from the date of the certificate of completion of the course, by the person desiring to have such standings accepted. (1913, c. 418.)

Section 411—6a. No member of any county training school board shall be employed in the county training school for teachers, either as principal or as assistant teacher, during the term for which he was elected or appointed as a member of such county training school board, nor shall any person be employed as a teacher in such school who does not hold some form of a State license or certificate: *Provided*, That the provisions of this section shall not apply to any person now engaged as a teacher in a county training school, nor shall any person be employed as principal of such school who is not legally qualified for the position of principal of a free high school having a four years' course of study, nor as an assistant one who does not hold some form of State license or certificate. (1911 c. 349.)

Joint training schools between counties. Section 411—7. 1. The county boards of two or more adjoining counties may unite in establishing and maintaining a training school for teachers for the purposes and on the same general plan as provided for in sections 411—1 to 411—6, inclusive, of the statutes, and may appropriate money for its maintenance, and whenever two or more counties unite in establishing such a school, the county superintendents of the counties so uniting and two members in addition chosen from each such county, no member of any county board being eligible thereto shall constitute the joint county training school board. * * * *The members of the board chosen by the county boards of supervisors shall choose one of the county superintendents of the counties uniting to maintain the school as secretary of the county training school board.* (1913 c. 105.)

2. If, at the time of establishing such school, the counties so uniting shall neglect to procure a site or to erect a school building therefor, such joint county training school board shall have power, subject to the approval of the State superintendent, to procure such site and to erect a suitable school building thereon. The joint county training school board shall have power, subject to the approval of the State superintendent, to borrow money for the purposes of this act from the trust funds of the State only, payable in not to exceed 10 years with the annual interest at the rate of not to exceed $3\frac{1}{2}$ per cent, but the total amount of such loans shall not at any time exceed \$12,000. Loans for

site and building purposes shall be made payable in equal annual installments, and provisions for the payment of each such installment and accrued interest shall be made in the tax levy and apportionment mentioned in section 411—8 of the statutes. (1909 c. 98.)

Apportionment of cost. Section 411—8. Whenever two or more counties unite in establishing and maintaining such school, the county school board provided for in such cases shall determine the amount of money necessary for the maintenance and equipment of the school for the next succeeding year, and annually thereafter. They shall apportion the amount to be raised by taxation among the counties in proportion to the assessed valuation of the real and personal property in each county as last fixed by the State board of assessment, and shall report to the county clerk of each county on or before the first Monday of November in each year the amount of the apportionment so fixed, and such amount shall be levied in the county tax of each county for the ensuing year for the support of the school. Each county treasurer shall, immediately upon the collection thereof, pay over all moneys levied and collected pursuant to the provisions of this act to the treasurer of the joint county training-school board and file the latter's receipt therefor as a voucher. (1909, c. 98.)

Treasurer's bond. Section 411—9. Such joint county training school shall choose a member of said board as treasurer, provided that the person so chosen shall not be president or secretary of such board. Such treasurer shall, before assuming his office, give a bond to said board for the faithful discharge of the duties of his office. Such bond shall be in the sum of \$15,000 and shall have three or more sureties approved by said board; or said treasurer, in lieu of said bond so signed by said three sureties, may give surety bond to be approved by said board, and the cost of said surety bond may be paid for out of the funds of said joint training school in the discretion of the board. All moneys appropriated to and expended for any such joint county training school shall be expended by the board of such school and shall be paid by the treasurer of said school on orders drawn by the secretary and countersigned by the president.

Who may be admitted. Section 411—10. The board of any training school for teachers established under this law in a single county, or by two or more adjoining counties, shall admit to said school, whenever the facilities provided will warrant said board in so doing, any person prepared to enter such school, and who may reside in any county but not within the district where any training school has already been established. Persons so admitted shall be entitled to the same privileges and subject to the rules of the board adopted for the government of such school.

Tuition of nonresidents, how collected. Section 411—11. Whenever any person not residing in any training-school district shall become a student in any training school, the board of such school is hereby empowered to charge a tuition fee for such person to be fixed by a majority of the members of said board at a regular meeting thereof, provided that such tuition fee shall not exceed 75 cents per week for each nonresident pupil.

The county board of supervisors of the county of which such person is a bona fide resident is hereby authorized to and shall provide by tax upon the property of the county a sum sufficient to provide for the payment of the tuition on account of the residents of said county who have attended such teachers' training school, and the amounts so levied shall be collected when and as other taxes are collected, and shall be paid by the county treasurer of said county to the county treasurer of the county in which the training school enrolling such person is situated, and the amount so received by such treasurer shall be placed to the credit of the teachers' training-school district. (1909, c. 223.)

THE COUNTY TRAINING-SCHOOL BUILDINGS.

The provision of buildings for county training schools is here given for the counties separately:

Barron County.—A building originally intended for a courthouse and later used as a high-school building was remodeled at a cost of \$3,250. If, at any time, the county shall fail to use the building for training-school purposes, the property will revert to the city of Rice Lake.

Buffalo County.—The city of Alma erected a building in 1902 and is giving its use free to the training school. The building belongs to the city.

Columbia County.—The county erected a building in 1910 at a cost of \$30,000.

Crawford County.—The training school is housed in the old public-school building, which is furnished free by the village of Gays Mills.

Door-Kewaunee Counties.—A site on which a building was located was secured for \$2,000. The building was remodeled at a cost of \$7,500 and belongs to the training school.

Dunn County.—The county erected a building in 1902, at a cost of \$25,000. This building is used jointly by the county training school and the county agricultural school.

Eau Claire County.—A building was erected in 1907 at a cost of \$18,000. It is used exclusively by the training school.

Green County.—The training school is housed in the upper rooms of the old high-school building. These rooms, together with heat and janitor service, are given free by the city of Monroe.

Green Lake County.—The training school pays \$600 rent to the city of Berlin for the entire upper floor in a new school building. This amount includes heat, light, and janitor service.

Langlade County.—The training school has the use of the upper rooms in the city library building. The rent paid is \$600 a year.

Lincoln County.—The old courthouse was remodeled at a cost of about \$4,400 and is occupied by the county training school.

Manitowoc County.—The training school occupies the upper rooms of the library building. A rental of \$600 is paid, which includes, light, heat, and janitor service.

Marathon County.—A building was erected by the county in 1902 at a cost of \$16,000. This building is used jointly by the county training school and the county agricultural school.

Marinette County.—A building was erected at a cost of \$25,000. It is used by the training school and also by the county agricultural school, which are both under the direction of one superintendent.

Oneida County.—The old courthouse was remodeled at a cost of \$2,000 and is used as quarters for the training school.

Outagamie County.—A building was remodeled and furnished free for the training school by the city of Kaukauna. In 1916 the county board voted to erect a new building. This will be ready for occupancy by January, 1917.

Polk County.—A building was erected by the county at a cost of \$7,000.

Price County.—Rooms, heat, and light are furnished free by the city of Phillips in one of the public school buildings.

Richland County.—A new building has been erected by the county at a cost of \$32,000.

Rock County.—Janesville furnishes rooms free in one of the ward buildings. A sum of \$650 is paid for heat, light, and janitor service.

Rusk County.—A new building was erected by the county in 1910-11, at a cost of \$15,000.

Sauk County.—A new building was erected by the county in 1910, at a cost of \$25,000.

Taylor County.—The city of Medford fixed up rooms for the training school in one of the ward buildings and gives the use of these rooms free, including heat.

Vernon County.—Rooms are rented in the high-school building. The rental paid is \$300 per year.

Waupaca County.—Free quarters are furnished by the city of New London in one of the ward buildings.

Waushara County.—A rental of \$150 per year is paid for rooms owned by a private individual. The rooms were remodeled at a cost of \$100.

Wood County.—A building was erected in 1907 at a cost of \$20,000. It is used jointly by the county training school and the county agricultural school.

THE TEACHERS IN THE TRAINING SCHOOLS.

THE PRINCIPALS.

The 27 principals are classified according to qualifications as follows:

Graduates from normal schools and also from some college or university	5
College graduates	6
Normal-school graduates who have done some college work	4
Normal-school graduates	6
Holders of State certificates received through examination	6

The experience that the principals had in teaching when they entered upon their work in the county training schools varies from 5 years to 25 years, the average length of service being 17 years. Practically all of them have at some time taught in rural schools, the length of such teaching varying from 1 to 7 years. Nearly all of them have also had experience in State graded schools or in city grades. With two or three exceptions they have spent several years as teachers in high schools, and 19 have been principals of high schools and supervising principals of the grades. Three have had experience as city superintendents, and 11 as county superintendents. Five have held positions on the faculties of normal schools.

Practically all of the principals have been born and brought up in the country and have a direct knowledge of country conditions. They have been pupils in the country school, and this experience, together with their work as teachers in these schools, gives them a knowledge of actual conditions.

The salaries of the principals average \$1,874 a year.

THE ASSISTANTS.

During the present year (1913-14) there are 50 assistants employed. These include the teachers who have charge of the model schools. In Richland County there are 4 assistants, in Columbia,

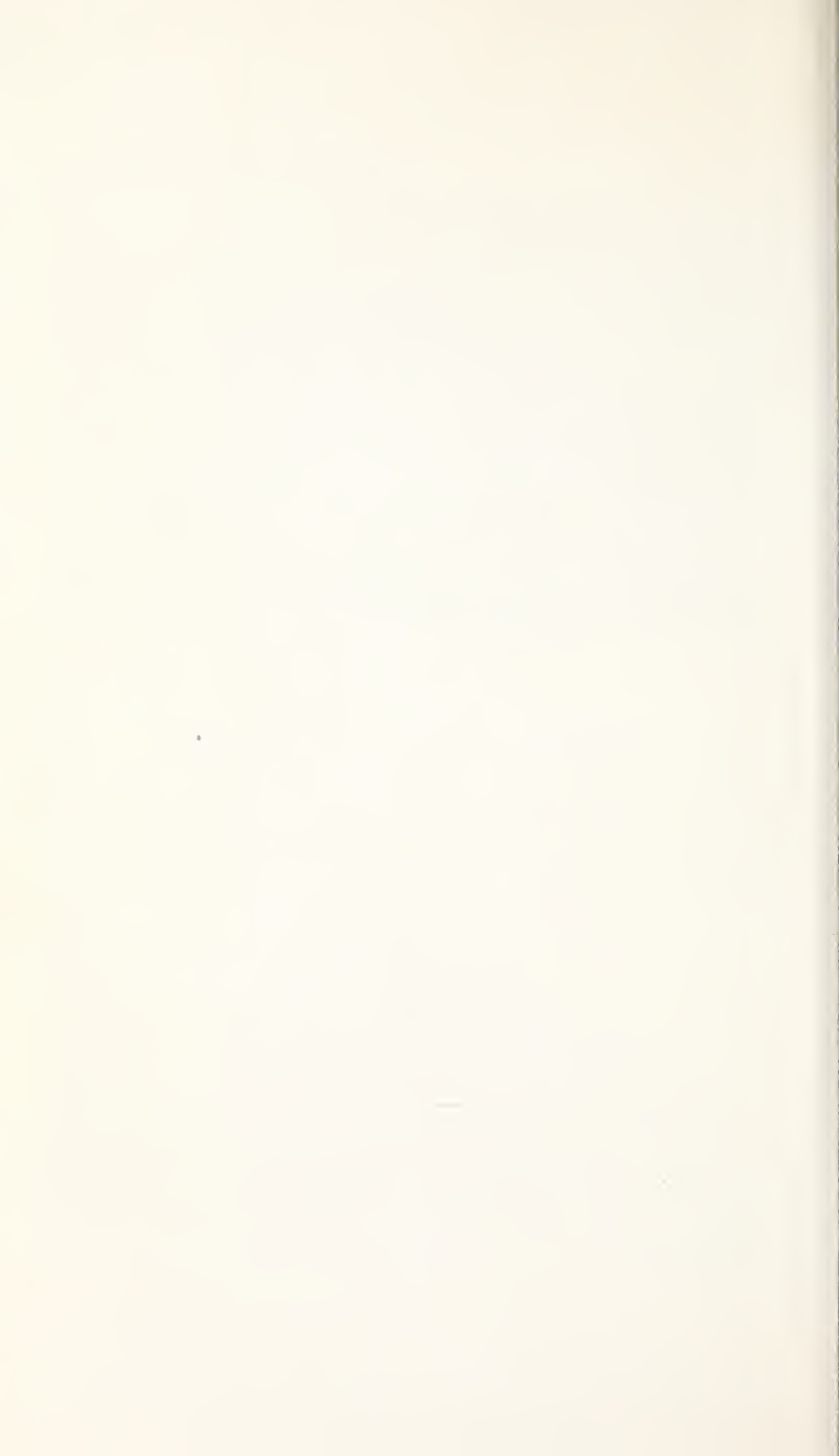


COUNTY TRAINING SCHOOL BUILDING, COLUMBUS, COLUMBIA COUNTY, WIS.



CITY LIBRARY BUILDING, ANTIGO, WIS.

The Langlade County Training School is conducted on the second floor.



Dunn, and Sauk Counties there are 3 assistants in each school. In 14 schools 2 assistants are employed, and in 9 schools the principal has 1 assistant.

The average salary paid first assistants is \$1,200 per year, and second assistants \$922.

According to qualifications the assistants are grouped as follows:

Graduates from normal schools and also from college-----	7
College graduates-----	4
Normal-school graduates who have had some college work-----	10
Normal-school graduates-----	24
Holders of State certificates received through examination-----	3

The first assistants average 11 years of teaching experience when entering upon their work, in the county training schools and all the other assistants average 9 years. About half of the number have been brought up in the country, and at least two-thirds have taught in the country schools. Practically all have had experience in elementary-school work. Over one-third of the assistants have taught in high schools. Five have taught in normal schools and one has been a county superintendent.

Special effort has always been made to fill the positions of principals and assistants in the county training schools with persons of adequate education and training who have a sympathetic knowledge of country conditions. A college graduate is not necessarily qualified to take a position as teacher in one of these schools. To be able to do the work properly a person must have a knowledge of country life and must keep in touch with the movements that make for better country conditions. The training school must be able to take the conditions as they are and with the county superintendent plan a campaign that will build up the common schools of the county.

THE COURSES OF STUDY.

The county training schools of Wisconsin do not follow a uniform course of study. A course is proposed by the local authorities and submitted to the State superintendent, by whom it is approved.

There are in general two courses. Those who are graduates of high schools or who have had sufficient preparation are usually able to complete the work in one year, and take what is known as the one-year course. Others who have not had sufficient preparation spend two years at the school. In some instances the students are unable to finish the work in two years. In some of the counties practically all of the students finish the courses in the time assigned, while in other counties where the preparation has been poorer more students fail to finish within the usual time.

The courses used in two of the schools are reproduced here to show the general arrangement of the subjects taken up.

BARRON COUNTY.

TWO-YEAR COURSE.

FIRST YEAR.

<i>First quarter</i>	<i>Second quarter</i>	<i>Third quarter</i>	<i>Fourth quarter</i>
English	English	English	English
Library training	Geography	Geography	Geography
Physiology	Drawing	Agriculture	Agriculture
Elementary science	Physical geography	Physical geography	Reading methods

SECOND YEAR.

English	English	English literature	American literature
History of Wisconsin and of United States	History of United States	History of United States	Civics
Methods	Methods	Management and psychology	Country life
Agriculture	Arithmetic	Arithmetic	Arithmetic
Practice	Practice	Practice	Practice

ONE-YEAR COURSE.

<i>First quarter</i>	<i>Second quarter</i>	<i>Third quarter</i>	<i>Fourth quarter</i>
English	English	English literature	American literature
Library training	Geography	Geography	Geography
Agriculture	Arithmetic	Arithmetic	Arithmetic
Physiology	Drawing	Physical geography	Country life
Methods	Methods	Psychology	Management
Practice	Practice	Practice	Practice

Twenty weeks of successful practice teaching are required of each student before graduation.

The two years' course in English includes grammar, composition, orthoëpy, simple word analysis, the reading of English classics, and American literature.

SAUK COUNTY.

TWO-YEAR COURSE.

FIRST YEAR.

<i>First quarter</i>	<i>Second quarter</i>	<i>Third quarter</i>	<i>Fourth quarter</i>
Spelling	Spelling	Arithmetic	Arithmetic
Reading	Reading	Language	Composition
Plays and games (7)	Physiology	Library reading	Library reading
Drawing (3)	Writing	Physiology (3)	Drawing (7)
Agriculture	Physical geography	Construction (7)	Plays and games (3)
Physical geography		Geography	Geography
			Agriculture

SECOND YEAR.

Professional language	Theory	U. S. history	Sewing
Professional reading and orthoëpy	Reading	American literature	U. S. history
Arithmetic	Professional arithmetic	Grammar	Civics
Cataloguing	Management and law	Observation and practice	Rural economics
Observation and practice	Observation and practice	Practice teachers' conference	Observation and practice
	Practice teachers' conference		Practice teachers' conference

ONE-YEAR COURSE.

FOR HIGH-SCHOOL GRADUATES AND THOSE HAVING FINISHED THE TENTH GRADE.

<i>First quarter</i>	<i>Second quarter</i>	<i>Third quarter</i>	<i>Fourth quarter</i>
Spelling	Reading	Physiology (3)	Civics
Professional language	Theory	Construction (7)	Rural economics
Professional reading and orthoëpy	Professional arithmetic	Grammar	Agriculture
Agriculture	Management and law	Geography	Library reading
Arithmetic	Writing	U. S. history	U. S. history
Cataloguing	Observation and practice	American literature	Drawing (7)
Plays and games (7)		Observation and practice	Plays and games (3)
Drawing (3)		Practice teachers' conference	Observation and practice
			Practice teachers' conference

Courses may have to be changed slightly to meet needs of model department. Library reading, music, rhetorical, and physical exercises throughout the year.

Cooking one day each week during the second year.

It will be seen from these courses that most of the time is given to the study of the subjects taught in the common schools. These subjects are studied both from the academic and the professional standpoints. Country school conditions are kept constantly in mind. The State common-school manual is used in connection with the study of most of the common-school subjects.

A brief study of the basic principles of education is made, constant attention being given to the application of these principles in the teaching work of the schoolroom. School management, school law, and the management and use of the school library are studied in all the schools; and here again country conditions are always kept in mind, especially the conditions in the county in which the school is located.

Every school gives at least 20 weeks to the study of agriculture and some give as much as a year. Nature study is emphasized throughout the course.

Observation and practice teaching are carried on under close supervision. Daily lesson plans are made by the students during their

practice work, and daily conferences are held in which criticisms and suggestions are made. All the students have practice in the teaching of primary reading, and as a result great progress has been made in the teaching of this subject. As much additional practice as possible is given in the teaching of other subjects. Seven of the training schools have actual practice departments in connection with their institutions, while the remainder secure practice work in the public schools of the city or village in which they are located. Some observation work is also done in the rural schools.

Many of the schools give domestic science and manual training. The chief purpose of this work is to show how some of the simple things may be introduced into the country schools to make the instruction more interesting and profitable. This type of training also has a tendency to develop in the students a proper attitude toward manual labor.

Algebra has been dropped from the courses in most of the schools and more time is given to the study of subjects which the students will have to teach.

Practically all the schools have now introduced in some form the study of rural sociology and rural economics. Special effort is made to make the work as concrete as possible.

The Door-Kewaunee training school has added a one-year preparatory course which students coming directly from the elementary school take before entering upon the regular two-year course. The work of this preparatory year is similar to that of the first year of a high school, so that, if the student concludes not to take up teaching, he may continue his school work in a regular high school. The work done in the preparatory year, however, is taken up with the professional idea in mind.

In all the schools the students maintain literary societies with the special purpose of securing training in parliamentary practice and management of public meetings.

THE STUDENTS.

In December, 1913, there were 1,227 students enrolled in the training schools of the State. The ages of these students are given in the tabulation on page 23.

On page 22 the academic preparation of the students is given in tabulated form. Of the total number attending, 11 per cent were high-school graduates when they entered. The preparation of the others was as follows:

	Per cent.
Having had three years beyond the elementary school.....	2½
Having had two years beyond the elementary school.....	10
Having had one year beyond the elementary school.....	14½
Eighth-grade graduates.....	62

Of those who had only an elementary education, $42\frac{1}{2}$ per cent were from a one-room country school; $12\frac{1}{2}$ per cent from a State graded school, and 7 per cent graduates of the eighth grade in cities.

On page 22 an attempt is made to show the life experience of the training-school students. It is seen from the summary that, of all the students enrolled in December, about 77 per cent were country bred and 23 per cent were from the city. In many instances, of course, the cities represented are small. Data received from the training schools show that practically all the students, both country bred and city bred, are accustomed to work in their homes and to assume responsibilities.

In considering students desirable for teachers' training schools of any kind, it should be kept constantly in mind that the ability to do academic work is but a part of the necessary preparation. It is felt that a person who has had considerable academic preparation, but who has never been accustomed to assume responsibilities in life, is not likely to become a strong leader in any community, and it is, therefore, considered that practically all the students who are enrolled in the county-training schools are young men and women who are accustomed to work and who have often had to shoulder responsibilities in their homes.

The following summary of the students in the Waupaca County training school was made by Principal C. B. Stanley:

SOME COUNTY NORMAL STATISTICS.

The following are some interesting facts concerning the home life and the preliminary preparation of the students of the County Normal which may prove as interesting to others as they have to the compiler:

Number of students reporting, 41.	Have made clothing, 34; dresses, 17.
Number of families represented, 40.	Milked cows, 31; one girl for 9 years;
Average age of students, 17 years.	one milked from 4 to 10 cows for
Lived on farm, all life, 28; most of	5 years.
life, 7; not at all, 5.	Care of dairy utensils, 29.
Parents dead, mother, 5; father, 5.	Out-door farm work, 35.
Average number of children in families, $5\frac{3}{4}$.	Repairing, 24; 14 put in windowpanes.
Oldest in family, 9; next to oldest, 12; youngest, 8.	Responsible for family darning, 11;
Having had responsibility for younger children, 23; none, 18.	for family mending, 12.
Kept house more than one day, 31.	Care of garden, 36.
Made bread, 30.	Raising garden flowers, 31; house
Experience in cooking, general, 26; some, 15.	plants, 31.
Charge of grocery marketing, 24.	Care of flock of poultry, 24.
Experience in purchasing clothing, 38.	Fried out lard, 17; made head cheese,
	5; made soft soap, 3.
	Can spin, 4; knit, 14; crochet, 15.
	Had experience in nursing, 17.
	Had charge in case of accident, 8.

Have met dangerous situations, 13.
 Taught Sunday-school class, 15.
 Conducted sociables, 25.
 Have taken special lessons, 19.
 Taught Sunday-school class, 15.
 Deposited money in bank, 13.
 Worked away from home for money, 24.

Marketed farm produce, 14.
 Had charge of housecleaning, 16.
 Done family washing, 32; family ironing, 36.
 Can harness and hitch a single horse, 31.

WAUPACA COUNTY NORMAL.

Attention may be called to the fact that the experience of most of the students with reference to travel is rather limited. Some, it is true, have had the opportunity of seeing various localities and conditions, but most of them have been restricted to their home localities. Many of the training schools have had their classes visit mills of various kinds, machine shops, quarries, and the like. In this way the student's horizon is extended, and he gets a broader view of life.

Academic preparation and life experience of students who entered the training schools in 1913.

County training schools.	Enrollment, December, 1913.		Academic preparation.							Life experience.							Students who work their way through school entirely or partly.	
			Number who were high-school graduates.	Had 3 years of advanced work.	Had 2 years of advanced work.	Had 1 year of advanced work.	Eighth-grade graduate only.	From 1-room country school.	From State graded school.	From eighth grade in city.	Country bred.	Having had responsibilities.	Having had no responsibilities.	City bred.	Having had responsibilities.	Having had no responsibilities.		Average number of children in the family.
Barron.....	62	4	3	10	10	35	20	8	7	60	56	4	2	2	0	6	36	
Buffalo.....	46	5	0	2	3	36	26	7	3	40	38	2	6	4	2	0	11	
Columbia.....	49	8	3	5	9	24	17	5	2	40	40	0	9	8	1	5	16	
Crawford.....	33	0	2	6	1	24	19	5	0	33	33	0	0	0	0	0	6	
Door-Kewaunee.....	42	8	0	1	14	19	11	5	3	28	20	8	14	9	5	4	3	
Dunn.....	71	1	0	0	13	57	42	12	3	66	64	2	5	4	1	6	39	
Eau Claire.....	62	6	0	9	12	35	29	5	1	46	46	0	16	16	0	5	33	
Green.....	40	6	0	4	0	30	4	21	5	26	26	0	14	6	8	0	8	
Green Lake.....	52	5	0	3	7	37	24	3	10	32	25	7	20	12	2	6	14	
Langlade.....	38	8	0	0	5	25	13	4	8	16	14	2	22	20	2	0	11	
Lincoln.....	23	15	1	0	1	6	6	0	0	10	10	0	13	11	2	7	0	
Manitowoc.....	40	2	3	4	4	27	16	10	1	36	32	4	4	4	0	5	10	
Marathon.....	82	5	2	5	16	54	32	16	6	0	0	0	0	0	0	0	0	
Marinette.....	51	16	0	6	9	20	15	5	0	30	30	0	21	21	0	6	3	
Oneida.....	31	5	0	5	2	19	11	5	3	26	18	8	5	2	3	6	10	
Outagamie.....	39	5	2	6	5	21	10	4	7	20	19	1	9	5	4	7	10	
Polk ¹	35	1	0	4	6	24	14	10	0	32	30	2	3	2	1	5	13	
Price.....	66	14	2	8	8	34	28	2	4	48	48	0	18	18	0	0	4	
Richland.....	27	3	1	2	3	18	11	3	4	20	16	4	7	5	2	6	5	
Rock.....	43	2	3	6	11	21	12	5	4	34	30	4	9	7	2	4	30	
Rusk.....	43	4	2	4	10	23	19	3	1	28	20	8	15	11	4	5	6	
Sauk.....	38	2	1	8	4	23	17	4	2	25	25	0	13	8	5	6	8	
Taylor.....	53	2	0	11	7	33	22	3	8	51	43	8	2	2	0	6	30	
Vernon.....	41	4	1	6	6	24	21	3	0	36	(1)	(1)	5	(1)	(1)	5	16	
Waupaca.....	36	1	0	0	0	35	25	7	3	36	36	0	0	0	0	5	6	
Waushara.....	84	2	4	8	16	54	54	0	0	70	65	5	14	14	0	6	48	
Total.....	1,227	134	30	123	182	758	519	155	85	889	784	69	256	201	50	5½	376	

¹ No information.

Ages of students enrolled December, 1913.

County training schools.	Enrollment.					Juniors—First year.						Seniors—Second year.							
	Total.	Juniors.		Seniors.		Under 16 years.	16 years.	17 years.	18 years.	19 years.	20 years.	21 years or over.	Under 16 years.	16 years.	17 years.	18 years.	19 years.	20 years.	21 years or over.
		Male.	Female.	Male.	Female.														
Barron.....	62	1	28	2	31	3	15	4	5	2	0	0	2	4	15	4	5	1	2
Buffalo.....	46	4	19	3	20	0	13	8	0	2	0	0	0	2	5	5	5	1	
Columbia.....	49	0	11	0	38	2	5	0	2	2	0	0	0	3	10	13	5	3	4
Crawford.....	33	1	17	2	13	11	4	3	0	0	0	0	0	4	3	5	1	0	2
Door-Kewaunee.....	42	11	12	6	13	3	8	6	4	1	0	1	0	0	2	8	8	1	0
Dunn.....	71	2	35	1	33	13	12	8	2	0	1	1	5	6	15	5	2	1	0
Eau Claire.....	62	2	27	1	32	0	13	9	5	1	0	1	0	0	11	11	3	4	4
Green.....	40	0	22	0	18	3	3	3	6	7	0	0	0	0	1	3	4	6	4
Green Lake.....	52	6	22	2	22	4	13	9	1	0	1	0	0	4	7	6	4	0	3
Langlade.....	38	0	10	0	28	0	7	2	1	0	0	0	0	2	9	9	5	2	1
Lincoln.....	23	0	0	0	23	0	0	0	0	0	0	0	1	0	4	11	5	2	0
Manitowoc.....	40	8	17	2	13	0	14	8	2	1	0	0	0	0	0	10	4	0	1
Marathon.....	82	5	37	5	35	11	20	8	3	0	0	0	0	8	17	8	3	2	2
Marinette.....	51	2	17	2	30	0	11	7	0	0	1	0	0	0	10	8	8	5	1
Oneida.....	31	0	10	1	20	3	5	2	0	0	0	0	0	0	7	9	1	2	2
Outagamie.....	39	3	13	2	21	8	4	2	0	0	0	2	1	5	6	4	4	0	3
Polk ¹	35	4	14	0	17	5	11	2	0	0	0	0	0	8	2	3	2	1	1
Price.....	66	7	23	7	29	4	12	10	3	1	0	0	0	5	8	10	6	2	5
Richland.....	27	0	12	0	15	3	0	6	2	1	0	0	0	0	2	6	3	3	1
Rock.....	43	7	11	2	23	6	0	7	4	1	0	0	1	0	3	13	3	5	0
Rusk.....	43	1	22	1	19	6	7	7	2	0	0	1	1	3	5	4	5	1	1
Sauk.....	38	0	12	1	25	7	3	2	0	0	0	0	3	7	6	8	1	1	0
Taylor.....	53	2	29	4	18	6	9	10	5	0	0	1	0	2	7	5	4	4	0
Vernon.....	41	1	20	1	19	3	6	9	3	0	0	0	0	5	10	3	1	0	1
Waupaca.....	36	0	21	1	14	10	9	1	0	1	0	0	0	4	4	2	3	0	2
Waushara.....	84	6	41	2	35	8	11	16	8	4	0	0	0	9	7	7	7	4	3
Wood.....	84	6	41	2	35	8	11	16	8	4	0	0	0	9	7	7	7	4	3
Total.....	1,227	73	502	48	604	119	215	149	58	24	3	7	14	81	196	180	102	55	44

¹ No information.*County training-school graduates.*

County training schools.	Total number.	Men.	Women.	1900	1901	1902	1903	1904	1905	1906	1907	1908	1909	1910	1911	1912	1913	1914
Barron.....	147	1	146	.....	.....	.....	.....	.....	.....	.....	.....	9	21	20	18	30	19	30
Buffalo.....	250	46	204	.....	.....	.....	23	34	20	26	12	17	18	17	21	19	24	19
Columbia.....	119	8	111	.....	.....	.....	.....	.....	.....	.....	.....	.....	4	22	21	18	26	28
Crawford.....	81	6	75	.....	.....	.....	.....	.....	.....	.....	.....	.....	10	19	9	7	22	14
Door-Kewaunee.....	119	26	93	.....	.....	.....	.....	.....	.....	.....	.....	.....	16	25	21	23	15	19
Dunn.....	467	53	414	18	26	33	34	37	24	47	33	33	30	32	31	25	36	28
Eau Claire.....	207	9	198	.....	.....	.....	.....	.....	.....	12	28	22	28	20	23	16	32	26
Green.....	124	2	122	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	16	34	23	32	19
Green Lake.....	95	11	84	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	12	22	21	21	19
Langlade.....	127	0	127	.....	.....	.....	.....	.....	.....	11	15	14	18	17	19	15	18	.....
Lincoln.....	93	0	93	.....	.....	.....	.....	.....	.....	.....	.....	2	10	8	15	22	15	21
Manitowoc.....	302	92	210	.....	.....	32	25	21	21	23	20	23	24	19	27	23	29	15
Marathon.....	421	39	382	23	16	27	32	26	25	26	30	21	32	29	30	24	27	43
Marinette.....	217	18	199	.....	.....	.....	.....	.....	.....	11	36	24	24	25	23	17	26	31
Oneida.....	42	0	42	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	6	12	13	11	.....
Outagamie.....	26	1	25	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	8	18	.....
Polk.....	144	9	135	.....	.....	.....	.....	.....	.....	6	11	13	26	21	18	17	14	18
Price.....	50	0	50	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	5	11	10	10	14
Richland.....	337	49	288	.....	.....	.....	19	37	23	31	25	24	31	23	39	35	19	31
Rock.....	44	0	44	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	14	17	13
Rusk.....	131	8	123	.....	.....	.....	.....	.....	.....	.....	.....	16	19	18	15	26	13	24
Sauk.....	125	2	123	.....	.....	.....	.....	.....	.....	.....	21	10	12	15	18	13	17	19
Taylor.....	22	1	21	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	2	20	.....
Vernon.....	171	15	156	.....	.....	.....	.....	.....	.....	.....	.....	17	26	20	28	22	33	25
Waupaca.....	251	18	233	.....	.....	.....	6	26	23	24	19	17	22	23	26	27	23	15
Waushara.....	88	2	86	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	19	11	20	23	15
Wood.....	306	18	288	.....	.....	.....	.....	22	25	25	18	25	29	31	37	37	28	29
Total ¹	4,506	434	4,072	41	42	92	139	203	161	231	264	298	396	457	521	520	559	582

¹ In 1915 there were 638 graduates, making the total number 5,144.

THE GRADUATES.

The graduates of the county training schools are listed in the table given on page 23.

The table on page 26 gives the number of the graduates who were in the teaching work during the year 1913-14. These teachers are further classified in the same table so as to show the number who are teaching in the rural schools and graded positions of their own counties, those who are teaching in rural schools and graded positions in other portions of the State, and, finally, those who are teaching in other States. Of the total number that were graduated previous to 1913-14 (3,924), there were 2,013, or about 51 per cent, teaching in 1913-14.

Questionnaires were sent to the county superintendents in whose counties the training schools are located, asking them to give their estimate concerning the work done by the graduates. Four groups were suggested, namely: Excellent, good, fair, and poor. The grading done by the county superintendents is also given on page 26. It will be seen that of the total number teaching in these counties the groups are as follows:

Of the total number whose work was reported upon (1,440)——

312, or 21½ per cent, are rated as excellent;

642, or 45 per cent, are rated as good;

311, or 21½ per cent, are rated as fair;

111, or 7½ per cent, are rated as poor; and

64, or 4½ per cent, are unclassified.

It should be understood that the rating will naturally vary in different counties. In some of the counties the great majority of the teachers had no special training for their work before the establishment of the training school. The work done by the training-school graduates in such counties was so far superior to that done by the ordinary beginner that in most cases it would be rated as excellent. In other counties, where the schools have been established for some time, and where a large number of the teachers have had special training, the county superintendent naturally applies a higher standard, and a smaller per cent would be rated as excellent. In some instances, where the rating was especially high, letters were written to the county superintendents calling their attention to the matter, but in all cases answers came back stating that the work done by the training-school graduates is far superior to the work to which they have been accustomed.

The county superintendents were asked to specify wherein lies the strength of the training-school graduates and also to set forth their weaknesses. Almost universally the reply has been that the training-school graduates "know what to do." Their preparation

has led them to consider the conditions under which work in the country school must be done, and their planning in the training school has had continually in mind the country-school conditions. Consequently, when they enter the school they have definite ideas in regard to procedure. They know what is to be taught, the classes that are to be organized, the equipment with which they have to work, etc. They "get down to business" at once, whereas the teacher who has had no special training often wastes a great deal of time in getting ready.

Many of the county superintendents also mentioned the enthusiasm with which the training-school graduates take up their work. They have been looking forward to the schoolroom work during their training-school career and many of them have developed unusual interest. Frequent references are made to the loyalty of the training-school graduates to the profession. As a rule they are in regular attendance at teachers' meetings and institutes, and take part in discussions to a much greater extent than the ordinary beginner does. It should be understood, of course, that the enthusiasm with which the graduates take up the work depends greatly upon the training school faculty and the county superintendent.

In this connection mention should be made of some of the weaknesses which have been found in training-school graduates. The one most commonly complained of is lack of sufficient scholarship. This is not surprising when it is remembered that many who have entered the training schools have been poorly prepared in fundamentals. It should be noticed also that this poor preparation is found not only in pupils who enter directly from the country schools, but also in those who have had more advanced work. There are even some high-school graduates who, though they have spent four years in work beyond the elementary school, have done very little of the work that is required to be taught in the elementary school. In many cases they have had very little of the common branches and much of what they have had in the other branches has been "above their heads."

The result is that frequently these students come into the training school very poorly prepared to enter with zeal upon the professional work. Often it is found necessary to give them much work in the common branches. Of late, however, there has been a tendency to emphasize the common branches more in the regular high-school course, and the result is that high-school graduates are becoming better prepared in the fundamental branches. Instead of spending a few weeks in so-called "reviews," the high schools are now beginning to give half years, and years, to such subjects as arithmetic, geography, grammar, civil government, and hygiene.

In a few instances the county superintendents mentioned that the training-school graduates do not enter the work in the proper spirit. It is true of all institutions preparing teachers that some of the graduates are bound to go out with the feeling that "they know it all," and undoubtedly some graduates of the training schools are numbered among these unfortunates.

One criticism that is occasionally made is that the graduates do not adapt themselves to the communities in which they teach. This is true of a comparatively small number. It has been pointed out previously that most of these students are country bred and are therefore accustomed to country life. Occasionally, however, a student develops a snobbish attitude when he gets away from home surroundings and continues it when he gets back. As a rule the atmosphere of the training school has a tendency to correct such notions.

The graduates who were teaching in 1913-14.

County training schools.	Total number of graduates previous to year 1913-14.	Number of these teaching during year 1913-14.	Number teaching in—					Number whose work was reported on.	Number whose work according to county superintendent is—				Number of graduates from other county training schools.	Number of rural schools in county.
			Rural schools in home county.	Graded positions in home county.	Rural schools in other counties.	Graded positions in other counties.	Other States.		Excellent.	Good.	Fair.	Poor.	Not classified.	
Barron.....	117	102	65	9	20	....	8	65	12	44	7	2	....	0
Buffalo.....	231	114	55	18	10	11	20	75	8	40	22	5	....	2
Columbia.....	91	79	47	10	9	2	2	60	25	29	4	2	....	0
Crawford.....	67	36	24	3	6	1	2	24	0	17	6	1	....	1
Door-Kewaunee.....	100	71	40	15	5	3	8	55	11	29	13	2	....	7
Dunn.....	439	141	87	10	19	5	20	100	22	47	22	9	....	5
Eau Claire.....	181	111	37	14	36	19	5	44	22	16	4	2	....	1
Green.....	105	71	40	6	18	6	1	46	....	....	....	46	....	120
Green Lake.....	76	50	20	3	13	7	7	24	3	15	5	1	....	1
Langlade.....	109	79	54	12	5	3	5	67	8	32	25	2	....	1
Lincoln.....	72	60	42	5	2	8	3	43	22	8	13	0	....	1
Manitowoc.....	287	115	81	18	2	7	7	99	21	46	27	5	....	2
Marathon.....	378	139	102	16	10	6	5	130	20	36	52	22	....	1
Marinette.....	186	103	45	27	8	14	9	57	19	29	18	1	....	0
Oneida.....	31	26	18	1	3	0	4	18	....	....	....	18	....	51
Outagamie.....	8	8	6	0	0	1	1	26	12	10	2	2	....	20
Polk.....	126	69	56	13	(1)	(1)	(1)	69	13	34	18	4	....	1
Price.....	36	28	23	3	1	1	0	27	11	9	2	5	....	4
Richland.....	306	77	67	10	(1)	(1)	(1)	67	15	42	7	3	....	5
Rock.....	31	27	25	1	1	0	0	33	0	27	6	0	....	7
Rusk.....	107	45	42	3	(1)	(1)	(1)	39	12	13	10	4	....	2
Sauk.....	106	62	41	6	10	2	3	44	9	21	10	4	....	3
Taylor.....	2	2	1	1	0	0	0	9	2	3	4	0	....	7
Vernon.....	146	76	35	9	2	1	29	44	8	10	10	16	....	2
Waupaca.....	236	132	46	11	41	18	16	46	8	16	13	9	....	1
Waushara.....	73	57	40	9	6	0	2	51	19	18	8	6	....	2
Wood.....	277	142	68	8	32	5	29	68	10	51	3	4	....	0
Total.....	3,924	2,013	1,207	241	259	120	186	1,440	312	642	311	111	64	76
														2,797

¹ Exact number not known.

In the following table are given the number of training-school graduates who have attended higher institutions since completing the training-school course. In studying this table a person should

keep in mind that some of the training schools are comparatively new, and for that reason the number of graduates who have attended higher institutions is small.

Number of training-school graduates who attended higher institutions—Number who finished such institutions.

Training schools.	Attended higher institu- tions.	Finished higher institu- tions.	Training schools.	Attended higher institu- tions.	Finished higher institu- tions.
Barron.....	(1)	(1)	Outagamie.....	0	0
Buffalo.....	45	30	Polk.....	(1)	(1)
Columbia.....	7	0	Price.....	0	0
Crawford.....	10	0	Richland.....	100	92
Door-Kewaunee.....	4	2	Rock.....	0	0
Dunn.....	30+	25+	Rusk.....	21	0
Eau Claire.....	23	8	Sauk.....	1	1
Green.....	6	2	Taylor.....	0	0
Green Lake.....	11	4	Vernon.....	5	1
Langlade.....	(1)	(1)	Waupaca.....	33	9
Lincoln.....	6	6	Waushara.....	2	0
Manitowoc.....	71	40	Wood.....	78	7
Marathon.....	49	19			
Marquette.....	21	10			
Oneida.....	3	0	Total.....	526	256

¹ Data not available.

COMMENTS ON THE WORK OF THE TRAINING SCHOOL GRADUATES BY THE COUNTY SUPERINTENDENTS.

The county superintendents of the counties in which the county training schools are located were asked to state the strength and the weaknesses of the training-school graduates as they observed them in their regular school work. The following responses were received:

1. As a rule training-school graduates are strong in initiative, resourcefulness, methods, orderliness, and neatness of school rooms. * * * Some of them are weak academically in upper form work and also in methods.

2. The greatest strength of the training-school graduates is in their preparation for their work in the graded and rural schools, their understanding of school problems and professional spirit. They know what to do and how to do it. * * * Some lack maturity.

3. The greatest strength of the training-school graduate is the acquired enthusiasm for the work and the knowledge of means and of ends regarding country school work. Most of them look forward to the beginning of school with pleasant anticipations. * * * One of the weaknesses is to underestimate the importance of thoroughness in upper form work.

4. They understand rural life better than others foreign to the country and are better liked in their communities as a result. This, of course, leads to many advantages. * * * Beginners show uncertainty; sometimes act as if imitating. There is a lack of or insufficient academic training.

5. They do better work in reading and make better assignments.

6. Strong in resourcefulness and the ability to meet the unexpected. * * * Some neglect to live up to their training.

7. They are strong in organization, in planning their work for each day, in presentation, and in primary reading. * * * Some of them are weak in knowledge of subject matter.

8. They appreciate the responsibility resting on them and make daily preparation for their work. * * * Some show weakness in government. Some of them are of immature judgment.

9. They are workers. They have ability to organize and lead. They show professional spirit. They get away from the mere book teaching and present practical needs. * * * In some cases knowledge of subject matter is limited.

10. They take great interest in school and community. More power in drill work. Strong in reading and primary work. * * * Some lack maturity. Some, possibly, have too much confidence in themselves.

11. They know what to do and how things should be done. In general they are more professional in their duty toward the work of teaching. In attending teachers' meetings the training-school graduate is far ahead of the old-type teacher.

12. They are strong in methods and especially in primary and middle-form work. They have good ideas regarding special programs, etc. They cooperate with the county superintendent and training school. * * * Some show a weakness in discipline and also in their ability to mingle properly in the social life in the community.

13. They know how to go about work, plan programs, prepare lessons, and make assignments, and hence do not waste time. * * * There is a lack of scholarship on the part of those who are not high-school graduates.

14. They are strong in subject matter, habits of application, and general good teaching. They know how to plan their work and organize the school. They have a foundation so that they are able to receive constructive criticism from the superintendent.

15. They are strong in methods of presenting work when compared with untrained teachers. They are strong also in "mixing" with community. * * * Weakness in teaching upper grades. Graduates not mature. The weaknesses are lack of maturity, confidence, and in many cases academic qualifications.

16. They are strong in methods of handling class work and also in making assignments. * * * Some of them get the notion that their preparation is complete. They do not know well enough the subject to teach. They are in many cases too immature.

17. They are strong in preparing work, assigning lessons, and in methods of instruction. * * * Many are too young and some deficient in knowledge. They find the work more difficult than they anticipate.

18. Most of them have interest in country life. Their work is better organized. They are better prepared for busy work and do more social center work. * * * Many lack in experience, education, and training previous to time they start training schools.

19. Majority anxious to make success. Many take active interest in civic society matters. * * * Many immature girls, weak in scholarship and lack of sense of responsibility.

20. They organize the school with less delay. They have a supply of seat work and are prepared with drills and devices that have been provided at the training school. They have a better attitude toward the country, its social and economic problems. There is a disposition to find out, write letters, ask questions, and use references. * * * Some are weak in discipline and in the teaching of arithmetic and spelling.

21. They are strong in teaching language.

22. They give the impression that they have something definite planned. * * * They have a tendency to overdo the busy work.

23. They are strong in discipline, cooperation, and desire to do their very best; also in instruction and assignments. * * * There is a lack of academic preparation before entering training schools.

WORK DONE BY SOME OF THE GRADUATES OF TRAINING SCHOOLS.

Many instances could be given where graduates of training schools have brought new life into the work of the country schools and also

new life into country communities. The following accounts are given not merely to tell what some of the graduates have done, but as suggestive of what may be done by all teachers who are going into country school work. Institutions that train young people for work in country communities would do well to give them information regarding what has really been accomplished in districts of the home county.

Miss P. taught at ———. She was imbued with the spirit of community service. She called in the physician from the neighboring village and asked him to come and speak to her people on "Tuberculosis." He had been principal of one of the high schools of the State and readily responded. The interest which his address aroused led the people to desire regular gatherings of that kind. The teacher secured the organization of a society which has maintained monthly meetings for the past three years. Miss P. left the district, but her influence is still felt.

Miss W. was the teacher in the ——— school. She had had trouble with Ed, and he left school on Friday evening vowing never to return. Miss W. went to her home for the week end and was haunted by a sense of failure. She determined that she would not allow Ed to leave school. On her return to her district on Sunday she went immediately to Ed's home, thrashed out the entire trouble with him, got his promise to return to school, and went happily to her repose. On Monday Ed came back to school and finished the common-school course that spring, went on to high school, and finished the course there with credit to himself and his teachers. He is now one of the most progressive young farmers in ——— County.

Miss B. taught at ——— three years. She was no common teacher, but was a real spirit of progress in the community. She went after the board, after the boys, after their parents until she secured for her school ground the best equipment of play apparatus in the county. She organized a Sunday school there and taught in it herself. She really revolutionized the attitude of the people in that district.

Miss H. finished the County Normal in 1910. She secured a school in the town of ———. Here, somewhat in the backwoods, she went to work. She organized the women and girls into a sewing circle. She secured a Babcock milk tester and got all her pupils and many of the farmers interested in the testing of milk. She interested the farmers in tested seed corn, so that every farmer in her district planted tested seeds. She secured through her sewing circle the most complete equipment of almost any school in the county. She is still there (1914). They are paying her more than \$100 a year better salary than when she began work and will not let her go.

One of the training school principals writes the following in reply to the question regarding the work done by the graduates of his school:

As to the instances where communities have been aroused or benefited because of the work done by our graduates, I can not think of anything very startling or vivid under that head. On the other hand, we receive three or four letters every week from our graduates in which they tell of things that they are doing, and they are usually things that are worth while. The spirit of our graduates, as exemplified in their work, seems to be to do something

more than merely keep school in the community. For instance, one girl from whom I received a letter this week has just had a sociable at which she made \$26. With this she will buy single seats for the school. A good many of our graduates have raised money and purchased articles for the schools in which they teach. Several have purchased organs.

Last year 14 agricultural meetings were held in different parts of the county through the instrumentality of pupils who have graduated from this school, cooperating with the county agriculturist. He reports them generally active in promoting rural welfare and advancement.

I can think of another instance where one of our graduates persuaded a young man who had left school to go back and finish the common-school course, and encouraged the boy to enter high school. He is now a junior in the high school. Another case I can think of is where a graduate persuaded a young woman to go back to school and finish the common-school course with the same result.

One of our graduates said that the mail carrier on her route told her that the people were taking more newspapers this year than last, and this is the result of the interest she has aroused in current events in her school. Three of our graduates have already been asked to come back next year, which seems to me a splendid proof of the work that they are doing. One of our young men graduates was given a raise of \$7.50 per month at the end of the first term and at the same time asked to come back next year. He has 50 pupils.

The following account was received in response to a request regarding the work done by graduates of training schools in one of the counties:

In a certain district in this county there was a very poor school building, and a very poor school because of poorly paid, untrained teachers.

A prosperous farmer there whose large family had grown up and settled around him soon comprised the majority of the residents of the district. A daughter of one of the older children of this prosperous farmer attended a training school and became a well-trained and legally qualified teacher. When it dawned upon this settlement of relatives that they had such a teacher in the family, they questioned among themselves why they should continue to hire untrained teachers and suffer from a poor school while other schools profited by the services of this worthy daughter.

At a school meeting they decided to employ this young lady for that year. She was so successful in her work with the pupils that soon the parents became interested in the school. The programs given and the social events she inaugurated brought the parents to the schoolhouse. They then began to realize what a poor place they had for a school. They became interested in the welfare of their children, and proud of the live little school they had. At the next annual meeting they decided to build a new modern schoolhouse. This they did, sparing no pains in making it sanitary and convenient. They installed a furnace. They made a good well for drinking water, and made a cistern for soft water, plumbing a lavatory where the pupils could enjoy being cleanly. They built nice wardrobes, and a nice little library room separated from the main room by folding doors.

They then hired for another year the same young lady who had given such satisfaction.

She had a school and community program, a Harvest Sociable at her school this fall. It was a unique affair. The schoolhouse was decorated with shocks of corn and strings of seed corn. A motto: "Corn is King," occupied a prominent place on the front blackboard.

After a social hour a program was given. The first part of the program was a review of the work the school had done in the fall study of corn, preparing the soil, cultivating, selecting good seed, harvesting corn, curing the seed, preparing seed for planting, and judging of corn. The school had worked out a fine set of products, excelling the one gotten out by the Corn Products Co., and these were used in the different talks on the uses of corn. Maps showed the corn-growing region, and Wisconsin with its silos was not forgotten. Autumn songs livened the program.

Then came the farmers' side of the program, and three or four farmers talked on topics concerning the farm, each speaking on a subject in which his farm showed he was an expert. The teacher had shown great wisdom in asking men worthy to be heard upon subjects which supplemented her own instruction.

The children wanted me to see their basement; so the teacher took me down to see it. The furnace sat in the middle, dividing the one large room. In each corner was a playhouse, and one or two others edged in between. Each playhouse contained the rustic furniture made by the children and was supplied with rugs of their own making, pictures of their own framing, tables furnished with dishes and linen; and all was complete. The ingenuity of each family or set of children was plainly shown, and there were visible signs of a little suggestion by the teacher.

I was told that the children ate their dinners in their play dining rooms and that they often visited each other and ate dinner with each other, observing the best etiquette of the neighborhood. They were happy and proud of their lovely basement.

From another county the following report was received:

Many of the graduates of the training school have been instrumental in awakening the people of the districts in which they have taught.

The following will serve as a concrete example: Jt. Dist. 10, ———, is divided by the fact that the families live on two main roads each leading to the city of ———. In the fall of 1911 they hired a training-school graduate who thought that something ought to be done to bring the community together in a social way.

A literary program was given, after which a basket supper was held, the baskets being sold to the highest bidder. The people enjoyed the meeting so well that they voted to organize the Narrows Prairie Country Club, of which the teacher was made secretary.

With the money raised at the sale of the baskets and a small additional amount donated by the club an organ, bookcase, Babcock tester, and a lighting system were secured for the school.

The club is still in a thriving condition and has brought, besides many local people, several professors from the university to speak at the meetings.

The people of the district take part in the program by giving plays, talks, and debates. Some of the topics which have been considered are: Alfalfa growing, testing and curing seed corn, testing the dairy herd, cooperation among farmers, poultry raising, and woman suffrage.

The teacher taught the pupils how to use the Babcock tester and then allowed them to take it to their homes, keeping it about two weeks on each farm and testing the home herd. In another country district taught by a training-school graduate the classwork is so strong that the county superintendent has had the teacher put on class exercises before the teachers of the State graded schools and the school-board convention.

The work put on before the school-board convention was on the growing of alfalfa. Several of the members present questioned the class and found them able to answer their questions as intelligently as they had the teacher's.

The commission sent to the United States from Uruguay, South America, to study the educational methods of this country spent one day in ——— County. The forenoon was spent in the training school and the afternoon in the school taught by the teacher mentioned above. They were very much pleased and interested in the work they saw.

In a certain school district the people were mostly Finlanders. Some of the children could not speak a word of English. One of the farmers had a cream separator which did not work. He went to the clerk of the school board for help and was referred to the teacher. She took the machine apart, found the trouble, and fixed it. The result was that the opposition to the teaching of agriculture vanished, and money was provided for the purchase of a Babcock tester.

In a certain school request had been made for two or three years for a sweeping compound, more frequent scrubbing, and for some supplementary reading books. The requests had been continually refused. A graduate of the training school held "potato" meetings and took occasion to emphasize these requests. The result was that she got all she wanted and more than previous teachers had asked for.

As the direct result of the teaching of agriculture in one of the training schools, more than a dozen Babcock testers have been installed in the schools of the county. Corn testing has been introduced in at least 20 schools where no such work was done in previous years. Potato judging is now going on in 15 schools.

From another county the following report has been received:

At the present writing there are teaching in this county 58 graduates of the training school. Besides this number of graduates, there are at least 30 others teaching who have done some work at the training school. There are 11 of its graduates teaching in other counties of this State and two in other States. Eight of the young women have undertaken schools of one. In no case need the county or State think that the time spent by the young women in fitting themselves for the teaching profession is wasted. They will be able to help the boys and girls of to-morrow all the more because of the training they received. Six graduates are continuing their preparation for teaching at higher institutions of learning. From the reports received, they are successfully doing the work required of them at their institutions. The remainder of the graduates are either at home or pursuing other lines of work.

Each year the school has had a greater number of calls for its graduates than it has been able to fill. * * * Most of the graduates have proven successful in their work. As is to be expected in any line of work, failures have occurred. In general, failures have been due to a lack of personality rather than to the things which the school can give its students in so short a time. It is impossible to transform a person in one or two years. Sometimes a lifetime can not accomplish the transformation. No school can expect to turn out as a successful teacher everyone whom it graduates, let alone all who enter it. The best recommendation I know of for the school's graduates is the long



CLASS IN SEWING, EAU CLAIRE COUNTY TRAINING SCHOOL.



TESTING CORN, EAU CLAIRE COUNTY TRAINING SCHOOL.



CLASS TESTING MILK, EAU CLAIRE COUNTY TRAINING SCHOOL.



CLASS IN GEOGRAPHY METHODS STUDYING JAPAN, EAU CLAIRE COUNTY.

tenure many of them are serving in the same school. Several have taught for three years in the same district and many for two years. Others have returned to the first district where they taught after teaching elsewhere.

The salaries of the graduates before the minimum-wage law had been passed were good, varying from \$37.50 to \$65 per month. There is a call in graded school positions for our graduates, especially young men who are also graduates of high schools. Two of our young men are filling such positions at \$65 per month. The school could not fill two similar positions this fall because we had no graduates for the places.

The school has stood for more than the instruction of pupils within the four walls of its building. It has followed its graduates in the field and has attempted to help them over difficult places. Not alone to the graduates of the school has the spirit of helpfulness gone. It has attempted to be of service to every teacher of the county. It has been the only school of its kind in the State which has given the entire teaching force of a county an opportunity for consultation every Saturday by holding school on that day. The faculty have given their time on Mondays to the visitation of schools. During its six years' existence there are but eight schools in the entire county that have not been visited. Some of the schools have had as many as six visits.

From time to time the school has sent out printed material to all schools of the county. With the help of the county superintendent it has published the quarterly, ———, which has been sent free to all teachers and school board members of the county. Other publications in which the county superintendent and training school faculty have cooperated are "Farm Accounts" and "Essentials in Education."

The ideal of the school is one of service and helpfulness to all of the teachers of the entire county all of the time.

The following is one of the replies received:

Our graduates have awakened much interest in agricultural and other industrial work. They have arranged for agricultural meetings to which outside speakers have been invited. They have organized literary societies and sewing circles and held contests of various kinds. In the corn contest (1913) 554 pupils of the county took part. Although there has been nothing startling in any one community, there has been a general awakening of interest in all phases of educational work.

THE WORK OF THE COUNTY TRAINING SCHOOLS OUTSIDE OF THE TRAINING OF TEACHERS,

The most important work of the county training school is to prepare teachers for country school work. This was the purpose the people had in mind when the law was first enacted. The schools have, however, many other functions which are worthy of mention:

1. The teachers in the training school aid the county superintendent in holding teachers' meetings during the year. Since these teachers are thoroughly familiar with local conditions and needs, they are able to give to the country school-teachers help and suggestions of the most practical kind.

2. The members of the training school faculty visit country schools. They do this first of all to keep in touch with the schools of the county in order that they may know the needs of these schools. The visitation is carried on also for the purpose of knowing the work that the graduates of the institution are doing. In this way they learn by observation the strength and weakness of the graduates.

This school visitation is of considerable help to the county superintendents of the counties in which the schools are located. Most of the schools have made definite provision for this visitation work.

3. The members of the training school faculty assist the superintendents in the social center work of the county. They do this in training the students to lead in this work when they get into the schools of the county, and they also help by going into the county to speak at educational gatherings of various kinds.

4. The members of the training-school faculty are students of rural problems. In order to prepare teachers for country schools they must necessarily understand country needs and country conditions.

• In order that this study may be of mutual benefit to the various counties maintaining training schools, the principals have organized themselves into an association.

5. Many of the training schools assist the county superintendents in their work by preparing circulars and publications of various kinds, giving suggestions to the teachers who are working in the schools.

6. Besides visiting the country schools, the members of the faculty help the teachers of the county through correspondence. The teachers in the training schools are at the service of the country teachers at all times, and the graduates especially come to the members of the faculty with their questions.

7. Some of the training schools have undertaken to furnish educational material for country teachers. In some instances the schools loan professional books.

8. Some of the training schools are maintaining educational columns in the local newspapers. The material published in these columns is of value not only to teachers, but to the general reader.

9. Some of the training schools assist the county superintendent in conducting contests. In some instances the schools have provided for farmers' short courses. This work does much to foster educational sentiment in the different communities.

10. In a general way it may be said that a training school unifies and systematizes the school work in the county. The teachers naturally become united into a body that has a common aim and, to some extent, uniform methods. The county superintendent can, by

keeping in close touch with the work done in the training school, greatly influence the school work from year to year.

In addition to the above benefits derived from a county training school, the following have been set forth by some people:

(a) By the establishment of the county training school, more young people get additional schooling. It has been pointed out that most of the students in the training school are from the country communities. In a number of instances these students did not have convenient access to other schools.

(b) A training school has often been the means of interesting parents in the cause of education. Many of the people whose children have attended a training school have been impressed with the importance of the teachers' work and the necessity for careful preparation.

(c) The training school is an institution that especially brings the young people of the country into educational work. If the country communities are to develop educationally, they must largely do so under the leadership of their own people. There is a decided advantage in having country-bred people teaching in the country schools.

ADVANTAGES OF THE TRAINING SCHOOL AS AN INSTITUTION FOR TRAINING COUNTRY TEACHERS.

1. The members of the faculty are persons of maturity and are well prepared for the work, both in scholarship and experience. They are men and women who understand country life, and they are interested in its development.

2. Most of the students who attend training schools are from the country. The experiences that they have had are of great value to them when they become teachers.

3. The institution has a single purpose—the preparation of teachers for country-school work and the enrichment of country life in general. The school is vocational in nature and has, therefore, a definiteness often absent in other institutions.

4. The training schools, being local institutions, can better adapt their work to the needs of the localities they serve than can institutions that are more general in their work. The condition and needs of the people in the immediate vicinity are kept in mind in all the school work.

5. The institution is of great help to the county superintendent in all his work and enables that official to bring about educational improvements.

6. Because of its peculiar function in the educational work, the training school is hampered but little by the domination of higher institutions. It has been left free to arrange its work so that the best possible training may be given the young people for their particular work.

SUGGESTIONS FOR IMPROVING THE WORK OF THE COUNTY TRAINING SCHOOLS.

During the time that the county training schools have been in existence the teachers in these schools and the county superintendents have had a good opportunity to study the best ways of improving the country schools through the training of teachers. Every year some improvements have been made, either in the courses of study, in the selection of the material taught in the various branches, or in the method of teaching the subject matter. The following are some of the suggestions for improvement that have been made:

1. The standard of admission to the regular work of the training school should be raised whenever the conditions make it possible. One of the weaknesses of the training-school work is the immaturity of the students. Some of the schools have done a great deal toward urging immature and poorly prepared students to take further preparatory work in some other school.

2. The consensus of opinion seems to be that the training-school course is not comprehensive enough. The lengthening of the course seems to be generally desirable. The course was increased from one year to two years soon after the schools were established, and many are now considering the feasibility of making the course three years or of requiring an entrance preparation equivalent to two years beyond the elementary school.

The fact should be kept constantly in mind, however, that the material given in the training school should be of such a nature that it will make the teachers strong in their teaching rather than supply what is merely professional or cultural.

3. In the introduction of industrial work, care should be taken to secure instructors who have had successful experience in adapting the work of the schoolroom to the needs of home life. It is possible to make these so-called practical subjects impracticable and thus occasion much waste of time, both in the training school and in the country school.

4. The training school should do all that it possibly can to broaden the interests of the students. Few of them have had the opportunity to see much of life outside of their immediate environment. Whenever possible, students should be taken to institutions of various kinds in order that they may see how things are done. Visits to

manufacturing establishments, printing houses, Government offices, etc., are exceedingly valuable.

5. The observation and the practice work should be strengthened. As far as possible the students should observe good teaching. If the students see the work of teachers who are doing only mediocre work, the chances are that their standards will be low. In this observation and practice work country conditions should be kept in mind. Where the students do their observation work in city grades, care should be taken to select for observation teachers that know how to make the best use of the time.

6. The training schools should give some time to preparing students for leadership in country communities. It is not to be expected that these young people will be able to take charge of community organizations on an extensive scale, but much can be done to instruct them in ways of getting the people of the community interested in the school. A bulletin entitled "Social and Civic Center Work in Country Communities" has been used by the training schools and forms a basis for further instruction. The training school should not be satisfied merely to graduate young people who are able to teach the academic subjects fairly well, but they should have some definite knowledge as to what may be done to get the community to realize the true value of the school.

7. Institutions that train teachers for school work should aim to give their students knowledge regarding school buildings, school equipment, sanitation, and the like. Too often the teacher can give no satisfactory information concerning school furniture, blackboards, etc. The training schools should give their students this information.

OTHER INSTITUTIONS IN WISCONSIN PREPARING TEACHERS FOR COUNTRY SCHOOL WORK.

1. *Normal schools.*—There are at present in Wisconsin six State normal schools giving courses for the training of teachers for country schools. Data regarding these courses are given in the tabulation on page 38.

At Whitewater and Stevens Point the students taking the training course for rural teachers have a separate assembly room under the immediate charge of the director of the course. At the Whitewater school the director has an assistant, and the two teachers do most of the work in this department, the students going to the other teachers of the faculty for music, domestic science, manual training, drawing, and agriculture.

At Stevens Point the students take part of the other branches under the members of the regular normal school faculty, but the professional work is done by the director of the course.

In the other schools the students are seated in the same room with the rest of the students of the normal school. The professional work is done by the director of the course, but the academic work is taken with the regular teachers of the normal school faculty.

The courses of study in these departments are similar to the courses of study offered in the county training schools. Students with sufficient preparation may finish the work in a year, while others are required to take two years.

The directors of the rural school courses, like the principals of the county trading schools, work with the county superintendents of the counties in which the schools are located (and also neighboring counties) in trying to advance the interests of the county schools. The diplomas received upon the completion of these courses of study are equivalent to the diplomas received upon the completion of a county training school, but are limited to the county in which the normal school is located. The standings received at the school may be accepted by county superintendents anywhere in the State in granting certificates.

The rural school course at Oshkosh was discontinued in 1915.

State normal schools of Wisconsin having special courses for the training of rural teachers.

State normal schools.	Director of course.	Year established.	Enrollment, 1913-14.	Number of graduates.						Graduates teaching in 1913-14.
				In 1910.	In 1911.	In 1912.	In 1913.	In 1914.	Total.	
Whitewater...	G. A. Schmidt.....	1909	42	2	3	16	17	23	61	38
La Crosse...	J. R. Moore.....	1909	51		15	15	21	23	74	34
River Falls...	Jas. I. Malott.....	1910	103			8	23	38	69	122
Oshkosh...	E. E. Robey.....	1910	44		11	14	21	15	61	114
Stevens Point	O. W. Neale.....	1912	71				11	33	44	11
Platteville...	J. C. Brockert.....	1914								
Total ²			311	2	29	53	93	132	309	11

¹ Complete data not available.

² The total number of graduates in 1915 was 149.

2. *High schools.*—In 1913 the legislature enacted a law providing that after July 1, 1915, all persons entering upon the work of teaching must have had at least two years' schooling beyond the elementary course and that one of these years must be professional training. In order to provide a sufficient supply of teachers for the schools of the State when this law should go into effect, another measure was enacted providing for the establishment of teachers' training courses in certain high schools of the State. The following summary gives the principal features of this law:

1. Any free high school or high school having a course of study equivalent to a free high school and having four or more teachers, may establish a teachers' training course, *except that*—

2. Such schools *can not* be established in counties already having county training schools for teachers.

3. The courses of study and the qualifications of teachers must be approved by the State superintendent.

4. These courses must be administered for a period of not less than nine months during the school year ending June 30.

5. Any teacher employed to give instruction in the professional work and practice teaching shall be a graduate of the advanced course of a Wisconsin State normal school, or a school offering a course of study equivalent to the course of study offered in the Wisconsin State normal schools, and shall, in addition, present evidence of at least two years of successful experience.

6. Such teacher must devote full time to the work of the training course.

7. At least 10 persons must elect to take such course during the current year.

8. The work shall meet the approval of the State superintendent and reports must be made to him.

9. The certificate of graduation qualifies the holder to teach and shall, upon evidence of successful teaching for at least seven school months, when countersigned by the county superintendent of the county in which the training school is located, legally qualify the holder to teach in that county for a period of five years from the date when such certificate was granted, and shall also be a legal qualification to teach in any department of any State graded school in that county, the principalship of a State graded school of the first class excepted. Standings on certificates of graduation from an approved training course may be accepted by any county or city superintendent in place of actual examination under certain conditions.

10. If the administration of such training course meets the approval of the State superintendent, the State will aid to an amount equal to the sum expended for the salary of the duly qualified and approved teacher employed in this department. This special aid is apportioned as is other special State aid; that is, the teachers are paid by the district as other teachers are paid. The amount as above will be refunded at the time of the apportionment of special State aid.

Under this act 27 high schools of the State introduced teachers' training courses in the fall of 1913. The following table shows the enrollment in these courses during the year 1913-14 and the number of graduates in June, 1914. Since this is the first year the courses were established, the number of graduates is small. Only those students who had finished or almost finished the high-school course previous to 1913 could complete the work in one school year. A few of the high schools had introduced a teachers' training course before the law was enacted, and for this reason had a considerable number of students who were ready to complete the work the first year.

The annual appropriation by the State for these courses in the high schools is \$25,000.

Wisconsin high schools in which teachers' training courses have been established.

Location o schools.	Counties.	Enrollment, 1913-14.			Graduates, 1914.		
		Male.	Female.	Total.	Male.	Female.	Total.
Black River Falls..	Jackson.....	0	26	26	0	1	1
Chilton.....	Calumet.....	3	13	16	0	0	0
Chippewa Falls....	Chippewa.....	0	41	41	0	15	15
Crandon.....	Forest.....	3	8	11	0	0	0
Darlington.....	Lafayette.....	0	22	22	0	0	0
Dodgeville.....	Iowa.....	0	26	26	0	3	3
Ellsworth.....	Pierce.....	0	24	24	0	2	2
Fennimore.....	Grant.....	0	13	13	0	1	1
Florence.....	Florence.....	1	15	16	0	0	0
Galesville.....	Trempealeau....	3	36	39	0	5	5
Grantsburg.....	Burnett.....	2	13	15	0	1	1
Green Bay.....	Brown.....	0	21	21	0	0	0
Hayward.....	Sawyer.....	2	11	13	0	0	0
Jefferson.....	Jefferson.....	1	30	31	1	3	4
Mayville.....	Dodge.....	1	19	20	0	8	8
Neillsville.....	Clark.....	2	16	18	0	1	1
New Richmond.....	St. Croix.....	0	36	36	0	8	8
Omro.....	Winnebago.....	0	25	25	0	66	66
Plymouth.....	Sheboygan.....	6	30	36	2	17	19
Ripon.....	Fond du Lac....	2	27	29	0	1	1
Shawano.....	Shawano.....	1	10	11	1	2	3
Spooner.....	Washburn.....	1	14	15	0	2	2
Stoughton.....	Dane.....	1	23	24	0	5	5
Tomah.....	Monroe.....	0	30	30	0	4	4
Washburn.....	Bayfield.....	0	27	27	0	7	7
Waukesha.....	Waukesha.....	3	9	12	0	1	1
Westfield.....	Marquette.....	2	21	23	0	0	0
Total ¹		34	586	620	4	93	97

¹ The total enrollment for the year 1914-15 was 758. Of these, 59 were men and 699 women. There were 265 graduated—19 men and 246 women.



DEPARTMENT OF THE INTERIOR
BUREAU OF EDUCATION

BULLETIN, 1916, NO. 18

PUBLIC FACILITIES FOR EDUCATING THE ALIEN

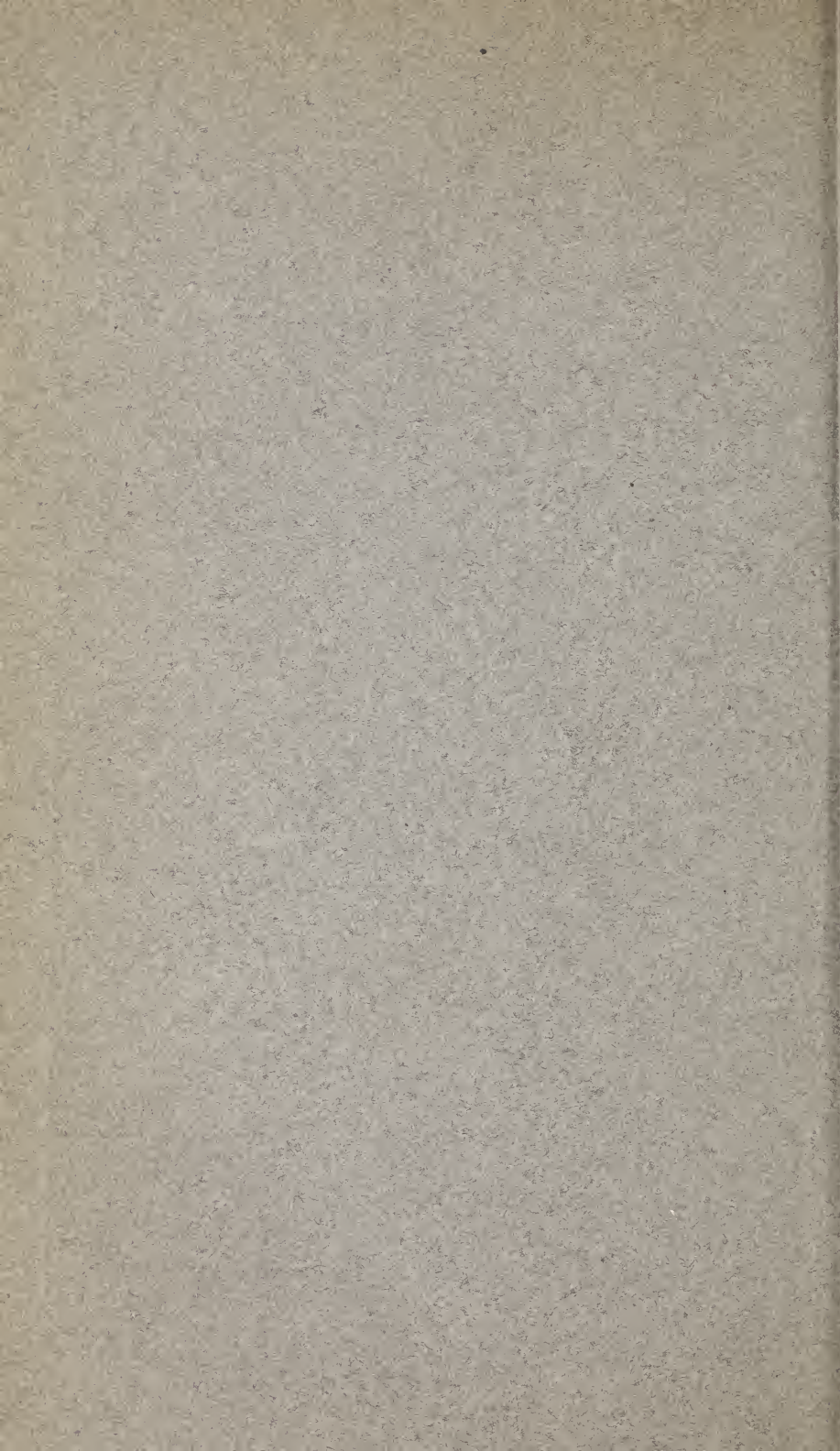
PREPARED IN THE DIVISION OF IMMIGRANT EDUCATION

BY

FREDERIC ERNEST FARRINGTON
BUREAU OF EDUCATION



WASHINGTON
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LETTER OF TRANSMITTAL.

DEPARTMENT OF THE INTERIOR,
BUREAU OF EDUCATION,

Washington, August 10, 1916.

SIR: In 1910 there were in the United States more than thirteen millions of foreign-born men, women, and children, and more than four-fifths of those coming in that year were from southern and eastern European countries and other countries in which the percentage of illiteracy is very large. Nearly three millions of these foreign-born men, women, and children over 10 years of age were unable to speak the English language, and more than one million six hundred thousand were unable to read and write in any language. The four years following the census year of 1910 added largely to all these classes, the average immigration for these years being more than one million annually. The tide has receded since the beginning of the war in Europe, but it will probably attain its former level and more when the war is over.

For their good and our own we may not let these people remain among us either as citizens or aliens without giving them adequate opportunity and every proper inducement to learn the language of the country and whatever else may be necessary to enable them to understand the best in American social, industrial, and civic life. A general feeling of the importance of this problem has given rise to three questions:

1. What is now being done for the education of those who come to our shores after having passed the age of compulsory school attendance?
2. What should be done for them?
3. How can it best be done?

To help toward the answer of the first of these questions, I recommend the publication of the accompanying manuscript, prepared by Dr. Frederic Ernest Farrington, of the Division of Immigrant Education in this bureau. Other manuscripts intended to assist in answering the second and third of these questions are in preparation and will be submitted for publication later.

Respectfully submitted.

P. P. CLAXTON,
Commissioner.

The SECRETARY OF THE INTERIOR.



PUBLIC FACILITIES FOR EDUCATING THE ALIEN.

Chapter I.

THE PROBLEM.

Census returns in the last two decennial reports have brought out with increasing force the growing importance of the alien problem.¹ Every citizen of the United States to-day is an immigrant or the descendant of an immigrant. Proximity to the ocean-crosser in point of time is the chief factor which fixes the position of each one in the categories of the census classification.

A century and a half ago it was finally determined that English should thenceforth be the language of the land. From the beginning of the colonial period English had been the language of the great majority of the arrivals from across the sea, and it continued so to be for many years thereafter. Subsequent arrivals for many decades accepted unquestioningly the responsibility of learning the language of their adopted country. So long as the newcomers were of Teutonic stock the problem of educating the aliens presented no particular difficulty. They all came from countries where learning occupied an honorable place in the minds of the common people, and the problem of illiteracy was almost negligible. In fact in some of the countries it was only a small proportion of what it was among the native-white population of America at the same time.

With the change in the character of the immigrant tide, however, when immigrants began to come from southern and eastern Europe, new difficulties presented themselves. In the decade 1851-1860, the arrivals from southern and eastern Europe formed only about 5 per cent of the total number of immigrants. In the following decade this proportion had doubled; in another decade it had doubled again; and then for 20 years it remained almost stationary. Reduced to figures, this means 5 per cent in 1851-1860; 11 per cent in 1861-70; 26 per cent in 1871-1880; and 28 per cent in 1881-1890. Then the flood from eastern and southern Europe burst forth with increased force, nearly doubling in the following decade; and finally, in the decade 1901-1910, it increased nearly by half.

¹ Table 1 shows the number of foreign-born whites, in each State, together with their per cent of the total population.

This change is shown schematically in the subjoined diagram:

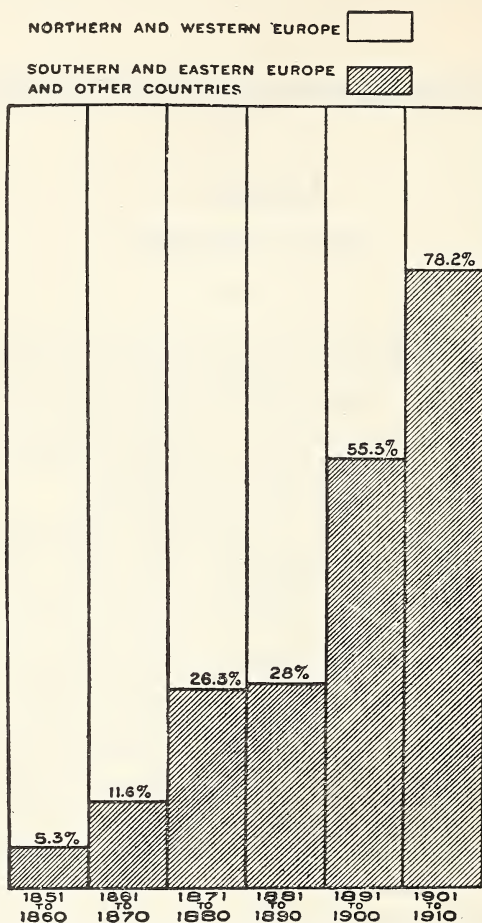


DIAGRAM 1.—Immigration into the United States, 1851-1910, showing per cent of increase from the less literate nations.

Thus in the decade, 1891-1900, well over half the immigration tide arose in the countries of southern and eastern Europe, and 10 years later these same countries were responsible for over three-fourths of our new arrivals. It is not surprising, therefore, that the sense of responsibility for acquiring a facility in the use of English changed inversely as the number of immigrants from the less literate nations. In 1890 over half the population of one of the kingdoms of the Dual Monarchy, from which a considerable proportion of immigrants comes, were classed as illiterate. Statistics for 1910 show this figure still to be over 33 per cent. Other illiteracy figures for that eastern section of Europe range from Austria with 13.7 per cent, Roumania with 60.6 per cent, and Russia with 69 per cent, to Servia

with 78.9 per cent of her population unable to read and write their own language.

If it is justifiable to assume that the literacy of the immigrants from these countries is measured by that of the population of the countries, it is evident that the United States must assume an additional burden in return for economic aid derived from their labor in order to raise these newcomers to the literacy level of its own people, which at best is quite too low even for the native-born whites.

According to the census of 1910,¹ there were 1,650,361 foreign-born whites over 10 years of age who could not read or write in any language, a number representing 12.7 per cent of the entire foreign-born white population of the country.² In contrast with the illiteracy among the native whites, 3 per cent, this figure is disquietingly large.

When inability to speak English is considered, an even more serious situation is disclosed, for in 1910 practically three million foreign-born white persons in the United States 10 years of age and over (to be exact, 2,953,011) were ignorant of the language of the country.³ While it is true that some of these were merely sojourners in the land who would ultimately find their way back whence they came,⁴ it is evident that during their stay in the United States they are subject to the laws and regulations of the country and must be held responsible for obeying these laws and regulations. Even though they may feel no personal need for acquiring English the welfare and safety of the Nation make it imperative that this obligation be forced upon them. The more these foreigners settle in groups among their own kind, the less likely are they to learn English of their own accord, and the more necessary does it become that municipal, State, or National authorities begin seriously to consider the problem.

In 1910 the 2,953,011 foreign-born white persons in the United States 10 years of age and over who were unable to speak English represented 22.8 per cent of the total foreign-born population of the country. While these are scattered throughout all the States of the Union, they are largely found in the northeastern quarter of the country. More than two-thirds of them are in the States of New York, Pennsylvania, Illinois, Massachusetts, Ohio, New Jersey, Texas, Wisconsin, and Michigan. With the exception of Texas, the States just noted are all north of the Ohio and east of the Mississippi.

¹In the subsequent pages of this bulletin all figures relating to population, size of communities, illiteracy, inability to speak English, and the like for the United States are based upon the returns of the census for 1910.

²For illiteracy figures among foreign-born whites for the various States, see Table 2, p. 33.

³For figures relating to inability to speak English among foreign-born whites for the various States, see Table 3.

⁴From the most trustworthy information available, this represents about one-third the total number.

Each of them has more than 100,000 non-English-speaking foreigners, with numbers ranging from 102,000 in Michigan to 597,000 in New York. Whereas these States have 67.6 per cent of the total foreign-born white population of the country, they have 73.6 per cent of those unable to speak English. In other words, these figures would seem to strengthen the assumption that massed groups of foreigners engender a disinclination to learn English. As numbers increase, the problem increases in more than arithmetical ratio. Census figures, which show that the number of persons unable to speak English increased 1,735,731 between 1900 and 1910, or 142.6 per cent, as opposed to an increase of 29.3 per cent in the total number, should therefore provide food for serious thought.

Consideration of the age distribution of these people suggests an even more serious condition, for of the nearly three million who can not use the English language as a medium of communication, 2,565,612 are over 21 years of age, in other words, well beyond the compulsory school-attendance age and therefore beyond the period when in the ordinary course of events they are likely to attend school in order to acquire the common-school branches. Of the two and one-half million over 21 years of age who can not speak English, only 35,614 are in school, a paltry 1.3 per cent.¹ This situation is shown graphically and forcefully in the following diagram:

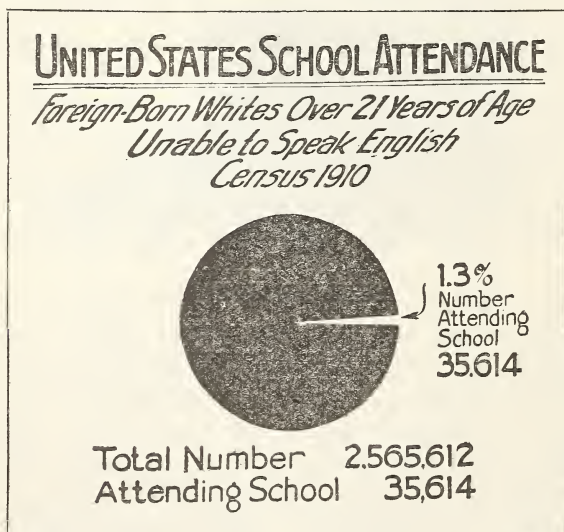


DIAGRAM 2.

Handicapped by a language disability, they not only find barriers in the way of securing ready employment, but they fall into the hands of more or less unscrupulous fellow countrymen who exploit their language ignorance, or they become a ready prey to the agitator

¹ For figures showing school attendance among foreign-born whites by age groups for the various States, see Table 4.

of smooth speech and are thus likely to become a menace to the welfare of both Commonwealth and Nation.

The immediate significance of this is suggested by a study of the per cent of males of militia age (18 to 44 years) in New England. The figures in the following table are represented graphically in the diagram shown below:

Total males of militia age (18 to 44 years) in New England.

Classes.	Number.	Per cent.
Native parentage.....	510,616	34.3
Negro and others.....	20,271	1.4
Foreign or mixed parentage.....	356,428	24.4
Foreign-born white.....	581,585	39.9

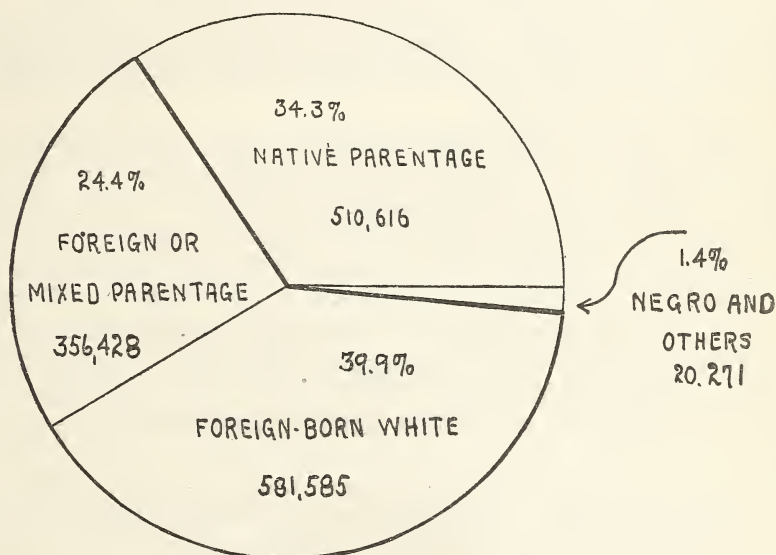


DIAGRAM 3.—Distribution of males of militia age (18 to 44 years) in New England according to nativity and parentage.

Only less striking are the corresponding data for the Middle Atlantic States.

Since complete citizenship should be the ultimate desire of every foreigner who settles in the country permanently, there is an added reason for putting the acquisition of the speech of the land within reach of all, for according to Federal regulations ability to read and speak English is demanded before the rights and privileges of citizenship may be conferred.

Chapter II.

LEGAL ASPECTS.

Public schools are universal throughout all the States of the Union. They have been established in response to the deep-seated conviction that education is essential for individual happiness and efficiency, for civic welfare, and for national prosperity. This conviction has been embodied in constitution and statute in order to guarantee the continuance of a system of schools for the people of the land, and to-day scarcely a hamlet in the whole country lacks facilities for providing the youth with the means for further material, intellectual, and spiritual progress.

"People" in the sense above, however, has contemplated the American people. It is only when one realizes that not all the people of this country are fundamentally American, with American standards and American ideals, that it becomes apparent that the United States has a large group of residents who are not affected by the educational organization established by the fathers. Whereas the law has safeguarded the native population, what provision does it make for assuring that the foreigner should have an educational equipment comparable to that within reach of the native born, at least to the minimum safety limit imposed upon the native population?

From the legal standpoint, immigrant education deals with three quite distinct groups: (1) Children who come within the provisions of the compulsory school-attendance law (usually up to 14 or 15 years); (2) youth of both sexes between the close of the compulsory school-attendance period and the close of the school-age period (18, 20, or 21 years, according to the State); and (3) all above the age limits just indicated, who may be termed adults from the school-age point of view.

Children of the first group present no peculiar problem. They are taken care of more or less effectively by the compulsory school-attendance law, which affects all children alike. In communities where the machinery for the enforcement of this law is not altogether efficient, undoubtedly too many escape entirely, especially if they come in toward the end of the compulsory period. Under a co-operative arrangement between the United States Bureau of Education and the Bureau of Immigration of the Department of Labor,

commissioners of immigration at the ports of entry are notifying the various school authorities throughout the country of the arrival of immigrant children between the ages of 4 and 16 years whose destination falls within the jurisdiction of these school authorities. Besides the name of the child, facts are furnished to facilitate identification.

In this way the machinery will be set in motion to enable local school authorities to learn almost immediately of the arrival of alien children within their midst and thus make it possible to bring these children into school before they are spirited away into unlawful employment. Once the law lays its hands upon such children, the chances are good that they can be kept long enough to acquire at least a working knowledge of English and some appreciation of civic life. Delay of even a few months, however, may immensely decrease the chances of Americanizing these children. Everything now depends upon the local school authorities. Vigilance on their part is bound to result in incalculable good, while indifference dooms the effort to failure.

In normal times, about 160,000 children between the ages of 5 and 16 enter the United States annually, 80 per cent coming from the non-English-speaking countries of southern and eastern Europe, particularly from southern Italy, from Poland, Hungary, Russia, and other adjoining States. Unless these children come early into contact with American ideals through the school system, they are likely to prove unfit for American citizenship.

For those who fall within the second category, from the close of the compulsory school-attendance period to the upper reaches of the school-age period, very little legislation is applicable. Massachusetts forms a conspicuous exception to the general rule, since for nearly 30 years there has been a law upon her statute books requiring illiterate minors over 14 years of age to attend some school if they have lived for a year in a city or town which maintains an evening school, although not until 1898 was instruction in the English language added to the list of subjects which must be offered in these schools. Beginning with 1906, the standard of literacy was fixed by legislation, a graduated scale being established, so that in 1908 and thereafter literacy was interpreted to mean such ability to read and write as is required for admission to the fourth grade. Five years later this was increased to the completion of the fourth grade.

Labor legislation of 1909 made this law more drastic by prohibiting the employment of any minor coming within the purview of this education law, unless he were attending a public evening school. Furthermore, in accordance with State law, any town may maintain, and every city or town in which labor certificates are granted to 20 or more persons within a year to whom this illiteracy law applies,

shall maintain an evening school during the following year. In effect, then, this legislation reaches every illiterate minor as defined above between 16 and 21 years of age, employed or unemployed, married or single, living in a community where evening schools are maintained. No other State has done so much to eliminate illiteracy. At best, however, many are bound to escape, for according to the most trustworthy statistics available on March 1, 1916, for the year 1914-15, there were 23 communities in the State each having over 5,000 inhabitants and over 1,000 foreign-born whites where no evening schools were found, in one of which, according to the census returns for 1910, the foreign-born whites comprised 47 per cent of the population. More striking still is the fact that 3 of the 23 communities had over 10,000 inhabitants.

Connecticut likewise has a mandatory provision in its education law for the establishment of evening schools, every town having a population of 10,000 or more being required to establish and maintain such schools for the instruction of persons over 14 years old. Furthermore, in towns where evening schools are found, illiterates between 14 and 16 years may not be in employment save on condition that they have been in regular attendance at evening school during the preceding month.

New York, in its cities of the first and second class, may require all persons between 14 and 16 years of age who have work certificates and who have not completed the elementary school course to attend part-time, or continuation, or evening schools, but the imposition of this requirement is optional with the community.

Permissive provisions for the establishment of evening schools are furthermore found in the education laws of several States; to wit, California, Georgia, Kansas, Missouri, New Jersey, New York, Ohio, Pennsylvania, Vermont, and Wisconsin. Nearly all the so-called immigration States are thus covered, Illinois, the most significant exception, reaching illiterates between 14 and 16 years of age through the medium of labor legislation. In that State attendance at night school may be accepted in lieu of passing the literacy test.

Permissive legislation, however, seldom accomplishes its purpose, and there is little reason to believe that these States in this regard form any exception to the general rule. The following figures for the principal immigration States (i. e., all those having over 500,000 foreign-born whites) will support this assertion:

Number of evening schools in the principal immigration States (i. e., States with over 500,000 foreign-born whites).

States.	Number of foreign-born whites.	Number of urban centers ¹ —		Number of evening schools in 1914-15. ²
		With over 2,500 inhabitants.	With over 1,000 foreign-born whites.	
New York.....	2, 729, 272	148	71	41
Pennsylvania.....	1, 436, 719	263	127	42
Illinois.....	1, 202, 560	144	32	19
Massachusetts.....	1, 051, 050	132	117	65
New Jersey.....	658, 188	88	61	30
Ohio.....	597, 245	139	40	20
Michigan.....	595, 524	77	43	19
Minnesota.....	543, 010	48	32	8
California.....	517, 250	70	30	9
Wisconsin.....	512, 569	73	33	19
Total.....		1, 202	591	272

¹ United States census, 1910.

² Figures up to Mar. 8, 1916, from data on file at the Bureau of Education, Division of Immigrant Education.

While the figure 1,000 foreign-born whites gives a more or less arbitrary dividing line, it appeared advisable to establish some definite basis for differentiation, and this seemed a convenient division point. One should not conclude that every community above this limit has an acute alien problem, and that in no case below this figure is there crying need for educational facilities to care for the foreign born. On the other hand, the number of foreign born does not give an accurate measure of the need. Maynard, Mass., with 3,002 foreign-born whites out of a total population of 6,390 and no evening school, has a distinctly more serious problem to face than Savannah, Ga., with 3,382 foreign-born whites out of 65,064, likewise without an evening school, or Evansville, Ind., with 4,462 foreign-born whites out of 69,647 and no evening classes for foreigners. In the majority of instances, however, it is fair to say that 1,000 foreign-born whites in any community deserve some evening school facilities, especially since more than one in five of these on the average will be unable to speak English, according to the figures for the country as a whole at the time of the 1910 census.

According to the foregoing table, about half the cities (following the census nomenclature that every community of 2,500 and over is classed as urban) covered by these figures have as many as 1,000 foreign-born whites, and less than half of these cities provide evening-school facilities. It is evident, therefore, that permissive legislation for the establishment of evening schools offers slight guarantee that the schools will actually be provided.

One may safely conclude that the age group 10 to 14 years of the foreign-born white population unable to speak English, representing

56,405 for the whole country, will be adequately taken care of by the school machinery already in existence. This conclusion is still further strengthened by the fact that 86.1 per cent of the total foreign-born white population within that age group (10 to 14) are in school. As age increases, the foreign-born white child is less and less likely to be found in school. Linguistic difficulties make it improbable that he will be found in any of the regular schools, and the table on page 36 shows that special opportunities, as measured by the prevalence of evening schools in the 10 States under consideration, are totally inadequate. In fact less than half the communities in the immigration States provide evening-school facilities for the alien.

For those of 21 years of age and over unable to speak English, the problem is acute and distressing. With 2,565,612 foreign-born white persons who fall within this age group in the country in 1910 suffering from this disability, and only 35,614 foreign-born white adults in school, or 1.3 per cent, it is evident that practically no aliens are making any systematic effort to acquire the English language. Since it is not certain that all these 35,000 are drawn from the non-English-speaking group, the real facts are probably even worse than the figures would seem to indicate.

Undoubtedly present facilities are already available for increasing by manyfold this insignificant number enrolled in school. The successful campaigns undertaken in cities like Detroit and Syracuse under the inspiration of the National Americanization Committee and with the valued support of the chambers of commerce justify this assertion. Unsatisfactory attendance upon evening classes is partly due to ignorance on the part of the foreign-born population as to the facilities for education that may be had for the asking. This can, of course, be remedied by awakening public sentiment to the necessity of bringing these opportunities to the attention of the foreigner through Americanization meetings, citizenship addresses, publicity campaigns in the various foreign languages, and the like, but even when all those means have been exhausted, there is still much to be done.

In many instances education laws themselves need to be changed, and in some cases even the State constitution. California is the only State in the Union which mentions evening schools by name in its constitution:¹ "The public-school system shall include day and evening elementary schools and such day and evening secondary schools * * *"

Missouri does this in effect when it grants to the general assembly the right to "establish and maintain free public schools for the

¹ The following material relating to constitutional and legislative provisions for evening schools is based largely upon Hood, W. R., "Digest of State Laws Relating to Public Education," Bureau of Education, Bulletin No. 47, 1915.

gratuitous instruction of all persons in this State between 5 and 6 years of age and over 20 years of age."

In some States constitutional provisions militate seriously against the establishment of free evening schools for adults, unless the community is prepared to support them entirely from its own resources. This barrier operates indirectly in those States which provide for free schools for the gratuitous instruction of all residents between certain ages, as in Colorado. It becomes effective in others by implication, as in South Dakota, where the school fund is distributed according to the number of children of school age. In still other States, the same result is reached more directly and positively, as in the case of Iowa, where the school fund is distributed on the basis of youth between the ages of 5 and 21 years. The following 20 States have such limitations: Alabama, Arizona, Arkansas, Colorado, Iowa, Kansas, Kentucky, Louisiana, Minnesota, Mississippi, Montana, Nebraska, New Mexico, North Carolina, North Dakota, Oklahoma, Oregon, South Carolina, South Dakota, Wyoming.

The following are extracts from the constitutions embodying these provisions:

Alabama.—Art. XIV, sec. 256: The legislature shall establish, organize, and maintain a liberal system of public schools throughout the State for the benefit of the children thereof between the ages of 7 and 21 years. The public-school fund shall be apportioned to the several counties in proportion to the number of school children of school age therein * * *.

Arizona.—Art. XI, sec. 6: The legislature shall provide for a system of common schools by which a free school shall be established and maintained in every school district for at least six months in each year, which school shall be open to all pupils between the ages of 6 and 21 years.

Sec. 8. The income derived from the investment of the permanent State school fund and from the rental derived from school lands, with such other funds as may be provided by law, shall be apportioned annually to the various counties of the State in proportion to the number of pupils of school age residing therein.

Arkansas.—Art. XIV, sec. 1: The State shall ever maintain a general, suitable, and efficient system of free schools whereby all persons in the State between the ages of 6 and 21 years may receive gratuitous instruction.

Colorado.—Art. IX, sec. 2: The general assembly shall, as soon as practicable, provide for the establishment and maintenance of a thorough and uniform system of free public schools throughout the State wherein all residents of the State between the ages of 3 and 21 years may be educated gratuitously.

Iowa.—Art. IX, Part II, sec. 7: The money subject to the support and maintenance of common schools shall be distributed to the districts in proportion to the number of youths between the ages of 5 and 21 years, in such manner as may be provided by the general assembly.

Kansas.—Art. VI, sec. 4: The income of the State school funds shall be disbursed annually, by order of the State superintendent, * * * in equitable proportion to the number of children and youth resident therein between the ages of 5 and 21 years.

Kentucky.—Sec. 186: Each county in the Commonwealth shall be entitled to its proportion of the school fund on its census of pupil children for each school year.

Louisiana.—Art. 248: There shall be free public schools for the white and colored races, separately, established by the general assembly, throughout the State, for the education of all the children of the State between the ages of 6 and 18 years. * * * All funds raised by the State for the support of public schools, except the poll tax, shall be distributed to each parish in proportion to the number of children therein between the ages of 6 and 18 years.

Minnesota.—Art. VIII, sec. 2: And the income arising from the lease or sale of said school land shall be distributed to the different townships throughout the State, in proportion to the number of scholars in each township, between the ages of 5 and 21 years.¹

Mississippi.—Art. VIII, sec. 206: The common school fund shall be distributed among the several counties and separate school districts in proportion to the number of educable children in each.

Montana.—Art. XI, sec. 5: The interest on all invested school funds of the State, * * * shall be apportioned to the several school districts of the State in proportion to the number of children and youths between the ages of 6 and 21 years, residing therein respectively.

Nebraska.—Art. VIII, sec. 6: The legislature shall provide for the free instruction in the common schools of this State of all persons between the ages of 5 and 21 years.

New Mexico.—Art. XII, sec. 1: A uniform system of free public schools sufficient for the education of, and open to, all the children of school age in the State shall be established and maintained.

North Carolina.—Art. IX, sec. 2: The general assembly * * * shall provide by taxation and otherwise for a general and uniform system of public schools, wherein tuition shall be free of charge to all the children of the State between the ages of 6 and 21 years.

North Dakota.—Art. IX, sec. 154: The interest and income of this fund * * * shall be faithfully used and applied each year for the benefit of the common schools of the State, and shall be for this purpose apportioned among and between all the several common-school corporations of the State in proportion to the number of children in each of school age, as may be fixed by law.

Oklahoma.—Art. XIII, sec. 1: The legislature shall establish and maintain a system of free public schools wherein all the children of the State may be educated.

Oregon.—Art. VIII, sec. 4: Provision shall be made by law for the distribution of the income of the common-school fund among the several counties of the State in proportion to the number of children resident therein between the ages of 4 and 20 years.

South Carolina.—Art. XI, sec. 5: The general assembly shall provide for a liberal system of free public schools for all children between the ages of 6 and 21 years.

South Dakota.—Art. VIII, sec. 3: The interest and income of this fund * * * shall be for this purpose apportioned among and between all the several public-school corporations of the State in proportion to the number of children in each of school age, as may be fixed by law.

Wyoming.—Art. VII, sec. 8: Provision shall be made by general law for the equitable distribution of such income among the several counties according to the number of children of school age in each.

Sec. 9. The legislature shall make such further provision, by taxation or otherwise, as with the income arising from the general school fund will create and maintain a thorough and efficient system of public schools, adequate to the proper instruction of all the youth of the State, between the ages of 6 and 21 years, free of charge.

¹ But, see legislative enactment *infra*, p. 19.

State school laws supplement and apply the constitutional provisions. These are summed up for the 10 principal immigration States in the following digest:

California.—Cities are generally administered under separate charter wherein are defined the powers and duties of school boards. In cities of the fifth class, school boards are granted general authority to establish evening schools.

Illinois.—Night schools are recognized in the child-labor law. Attendance at such schools is recognized as satisfying the provision of the law prohibiting the employment of any child between 14 and 16 who can not read and write.

Massachusetts.—Any town may and every city or town in which there are issued during the year of September 1 to August 31 certificates authorizing employment of 20 or more persons who do not possess the educational qualifications enumerated in the compulsory attendance law of the State shall maintain during the following school year an evening school for instruction of persons over 14 years old in orthography, reading, writing, the English language and grammar, geography, arithmetic, industrial drawing (both free-hand and mechanical), the history of the United States, physiology and hygiene, and good behavior; such other subjects may be taught as may be determined by the school committee.

Michigan.—No statement, direct or otherwise.

Minnesota.—School board of independent district may also provide for admission of nonresident pupils and those above school age and fix tuition of such pupils.
* * * Such boards may also establish and maintain evening schools for persons over 10 years old unable to attend day school and receive State aid for same.

New Jersey.—Board of education of any district may maintain evening schools for education of residents over 12 years old; * * * Said board may establish and maintain a public evening school for instruction of foreign-born residents over 14 years old in the English language and in government and laws of New Jersey and of the United States; teachers in such schools must hold special teachers' certificates; * * * course of study in such school must be approved by State board. Each district maintaining evening school or schools shall receive from the State for such school or schools an amount equal to that raised by the district, such aid not to exceed \$5,000 per year for any district.

New York.—Board of education of each school district and of each city may maintain free night schools.

Ohio.—Upon petition of parents or guardians of not less than 25 school children who are prevented from attending day school, the school board in any district shall organize an evening school; teachers for such schools must hold regularly issued teachers' certificates; board may discontinue such school when average attendance falls below 12; any person over 21 years old may be permitted to attend the evening school upon payment of tuition. The schools of each district shall be free to all youths between 6 and 21 years of age resident therein.

Pennsylvania.—The board of school directors of any district of second, third, or fourth class, upon application of parents of 25 or more pupils above 14 years, shall open a free evening school for instruction in spelling, reading, writing, arithmetic, and such other subjects as board may determine; evening schools shall be kept open for at least 4 months per year, 20 days a month, and 2 hours each evening; no student shall be admitted unless employed during the day; evening schools may be closed when the average attendance falls below 15. Boards may admit persons under 6 and over 21 to suitable special or vocational schools.

Wisconsin.—Every community of over 5,000 inhabitants must and every one of less than 5,000 may have an industrial education board, a part of whose duties shall be the fostering, establishing, and maintaining of evening schools. Such school must be established on petition of 25 persons qualified to attend such school.

Chapter III.

PRESENT CONDITIONS.

Some indication has already been given of the prevalence of evening schools in the chief immigration States, in consequence of the permissive legislation existing on their statute books. It is pertinent to discuss in some detail the specific conditions under which these schools are actually administered.

The following information is based upon questionnaire returns sent in by school administrative officers for the year 1914-15. Inquiry from the Bureau of Education brought in a wealth of valuable information from almost all the more important cities and towns in the country where evening schools for foreigners were successfully maintained. While certain details have necessarily been omitted, the returns were unusually complete, and it is safe to conclude that the most significant characteristics of evening-school management are embodied herein.

SUPPORT.

Eleven of the States make grants for evening-school support, to wit: California, Connecticut, Indiana (vocational), Maine, Minnesota, New Jersey, New York, Pennsylvania (industrial), Rhode Island, Washington, Wisconsin.

California.—Evening schools are part of the general school system. State aid is based upon average daily attendance in day and evening schools. A day's attendance, two hours, in an evening school is equivalent to a half-day's attendance in a day school. Inasmuch as the attendance unit in 1914-15 was worth \$15 per year per pupil, this amounted to one-half of \$15 for evening-school attendance.

Connecticut.—To each town supporting an evening school the State grants \$2.25 per pupil in average attendance, provided the school has been maintained for 75 nights and a report upon such school has been rendered to the board.

Maine.—The State reimburses the city to the extent of two-thirds of the amount expended for salaries of teachers, provided certain vocational subjects are also offered in the school. General evening-school instruction is thus supported through a rider on the industrial education act.

Minnesota.—State grant is available for evening-school pupils between 5 and 21 years, provided they have attended 40 nights or more. Only 2 out of 10 cities reporting note any State aid, and the amounts received in 1914-15 were \$200 and \$2,154, respectively. Schools are opened, however, to all persons over 10 years of age who for any cause are unable to attend the public day schools.

New Jersey.—State grants \$80 per teacher for each one who holds a regular teacher's certificate and who teaches at least 64 evenings of two hours each. There is also a

per capita allowance based upon attendance. An evening attendance is reckoned as a half-day's attendance. Inasmuch as this is apportioned from a lump appropriation, the per capita amount varies from year to year. In case the local board so elects, the State will duplicate the local appropriation for evening classes for foreign-born residents in lieu of the grant above noted, not, however, to exceed \$5,000 annually. Complaint is made that this law really provides aid for only small communities. In large systems it is claimed that the city actually loses money by taking advantage of the law.

New York.—There is no specific appropriation for ordinary night schools, although aid is apportioned on the basis of the number of teachers and the number of days they teach under the regular State grant system. For each 180 days or more taught during the year \$100 is allowed, and a night is regarded as half a day. Purely vocational schools are aided on a separate basis.

Rhode Island.—State aid is granted on the basis of half the amount expended up to \$1,000; then \$100 for each additional \$500 expended up to \$3,500. The maximum amount in any one case is therefore \$1,000. In 1915 the State had only \$7,000 to distribute, however, so that even this schedule can not always be paid in full.

Washington.—Current school funds of State and county are apportioned among the several districts of the State according to the actual number of days' attendance of all pupils. For the purpose of this distribution an evening's attendance in the evening school is counted as a half day. Sessions must be two hours in length and there must be no maximum age limit.

Wisconsin.—State reimburses city for one-half actual expenditures for evening schools up to a maximum allotment of \$3,000, provided the schools are maintained for at least eight months and that the work is satisfactory to the State superintendent and the State board of industrial education. No tuition may be charged to residents, and schools are open to all over 14 years of age.

FEES.

These schedules and most of the following material relate exclusively to conditions in the so-called evening elementary schools, the only classes where the alien is likely to be found. Some communities support evening commercial, high, industrial, or vocational schools, but these are outside the limits of the present inquiry.

Fees in evening schools do not amount to any significant figure, although a few less important places report that their school is entirely dependent upon this source of income. Several of the States have specific regulations against charging fees in the schools as a condition of receiving State grant. With relatively few exceptions, fees where collected do not apply to foreigners learning English, and in these exceptions the amounts are seldom burdensome. Only 77 schools out of 429 report fees charged, and 54 of these are found in the States of Illinois, Iowa, Massachusetts, Michigan, New York, Ohio, and Pennsylvania.

In Illinois these fees range from 50 cents per month to \$2 per month for a six months' term. It is significant to note that in the city charging this higher figure no school was opened in 1915-16 because there was not sufficient enrollment of those willing to pay this fee. Iowa reports fees ranging from \$1 per season to \$5 per

season for those over 21 years of age. Massachusetts cities charge \$1 to \$2 per season, but only for those not subject to the compulsory attendance law. Michigan school fees range from \$1 per season to 50 cents per week for a five months' term. New York charges in six schools from \$1 to \$2. Ohio reports from \$1 per season to 10 cents per lesson for those over 21 years of age, for an 87-lesson term. In Pennsylvania the fees range from 25 cents per season to \$1 per month for a five months' term.

DEPOSITS.

In 150 communities deposits are required of evening-school pupils, usually as an earnest of good faith, but sometimes in order to guarantee satisfactory deportment, return of books loaned, or regularity of attendance. The fact that in nearly every case reasonable care on the part of the pupils will secure the return of this fee is sufficient warrant for these assertions. The most frequent attendance requirement ranges from two-thirds to four-fifths of the possible attendances, although in some cases it is left under the general statement of "satisfactory attendance and deportment," and one town goes so far as to demand perfect attendance on condition of returning 50 per cent of the deposit.

SUPERVISION.

Evening-school supervision is far from being upon a satisfactory basis. It should be as much a specialty as the many other phases of school work that are recognized as demanding expert supervision. Most of the work, however, is still under the general direction of the superintendent's office. About one-third (150) of all the cities and towns whose returns are available report a director for evening-school work, although in certain cities this direction is merely an added function laid upon an administrative officer already seriously overburdened.

Existence or nonexistence of the director of evening schools, as found in the returns, is not always a dependable criterion of the work done, for many small communities report such a director and many important places report none. For example, a city of over 250,000 inhabitants, well known for the efficiency of its general supervision, in reporting no director of evening schools, adds that such schools are supervised by the superintendent and his assistant. On the other hand, a little borough of 600 inhabitants in the same State, for which a record happens to be available, reports a director of evening schools whose duties include teaching "reading, writing, and English work." It is not difficult to judge between the efficiency of the actual direction of evening schools in these two communities.

All varieties of duties are specified in the returns, from "merely teaching," "merely providing classes for the schools," "dividing the classes and grading them," to "to cooperate with the government, to advise course of study, and to study the classroom instruction." One of the most suggestive lists of specific duties is thus enumerated by the director of evening schools in Gardner, Mass.:

The principal acts as director. He speaks before the different clubs and societies. He visits the pastors of the foreign churches. He interviews the overseers at the factories. He acts in an advisory capacity at the foreign clubs, aiding in the purchase of books, etc.

A most comprehensive statement comes from Rochester, N. Y., a city which has made great strides in its Americanization movement:

This part of our work is in charge of our Director of Immigrant Education, who prepares the outlines, supervises the teaching, and conducts normal classes for the training of teachers.

From the information at hand, it is evident that effective supervision, even as the term is used in connection with day-school work, is practically negligible in evening schools, if the country as a whole be considered. Relatively few cities are attempting it at all, and the number attacking the problem effectively is insignificant. Yet new problems of organization and method are presenting themselves, and these can not be solved as are those of the day school, largely because the age limits of evening-school pupils cover a wider range than those of the ordinary school. Special training or peculiar skill of adaptation is essential in order to cope with the unusual situations in evening-school work.

TEACHERS.

Teachers in evening-school classes are recruited very largely from among the day-school staff. Many superintendents follow this method from choice, and many others from necessity. The former assert that day-school teachers have already proved their efficiency, while the latter accept such teachers reluctantly and only as a last resort, at the same time maintaining that evening-school work interferes with the efficiency of both day and evening schools. It is extremely doubtful whether nine-tenths of the day teachers are able either physically or professionally to carry this double burden, under the prevailing conditions. The conscientious teacher already spends too many evenings in school work, for they provide the only available time for the outside preparation which no good teacher can get along without.

Opinions differ as to the advisability of having the teachers use the language of the pupils, although from the character of the replies received it is evident that most of the judgments are purely ex cathedra, and are not based upon actual experience. Some super-

intendents require this language acquaintance; some refuse to recognize it as a qualification for appointment; and some are indifferent. Ability to speak the language of the alien pupil is of unquestioned value in organizing the classes, and it undoubtedly tends to establish a comfortable personal relationship between teacher and pupils if the pupils feel that they can find a sympathetic listener and helper in the person of the teacher. As far as subsequent classroom use is concerned, however, its advantage is not so obvious, for the prime purpose of the pupil is to learn English. Besides, in a polyglot group of pupils, such language knowledge on the part of the teacher is practically impossible.

The essential advantages of acquaintance with the language of the pupils in organizing the classes may be secured through interpreters, utilizing, for instance, the services of steamship agents, private bankers, and the like, who will be found in almost every immigrant community. This interpreter service should by all means be provided for in some way.

CERTIFICATES.

So far as may be judged from available returns, only seven cities have an effective special certificate in vogue for teachers of classes of immigrants: Buffalo, New York, and Rochester, N. Y.; Hoboken and Trenton, N. J.; Cincinnati and Middletown, Ohio. The Rochester requirement runs thus:

Must be graduates of the normal class for teachers of English to foreigners; must be high-school graduates at least; must evince an aptitude for this work; must be familiar with methods and textbooks.

Buffalo, Hoboken, and Trenton require knowledge of the native language of the pupils, but in Buffalo, at least, this language test seems to have fallen into abeyance.

QUALIFICATIONS.

Most cities in California, New Jersey, and New York, as well as 15 cities outside these States, demand the possession of the regular teachers' certificates. Five of these cities are found in Massachusetts, while the others are scattered through Illinois, Kentucky, Maine, Michigan, Nebraska, Ohio, Pennsylvania, Utah, Virginia, and Washington.

APPOINTMENT.

Teachers are appointed in various ways, almost all methods being represented: By the superintendent, by the board on recommendation of the superintendent or supervisor, by a committee of the board, by the principal, by the director of evening schools, by the supervisor of extension work, or by the board of industrial education (Wisconsin).

TRAINING.

Little definite training for teachers of foreigners is yet under way, yet the problems encountered in this type of work are certainly as different from those involved in ordinary elementary and secondary teaching as are those between kindergartening and ordinary teaching. For the year 1915-16 a few cities report special training courses. Manifestly, if such courses are not available, it is futile to attempt to impose such training requirements as a qualification for appointment. Albany, Buffalo, and Rochester, N. Y., and Harris Teachers' College, St. Louis, are offering specific courses of training in this field. Wilmerding, Pa., offers a course of training for its teachers and insists that the teachers of foreigners follow it. Pittsburgh, Pa., has a printed course of study for evening schools, and endeavors by frequent conferences to make sure that it is scrupulously followed. Other cities note special meetings or conferences with evening-school teachers: Rockford and East Chicago, Ill., Franklin, Mass., Hibbing, Minn., Garwood, N. J., Hudson Falls and Yonkers, N. Y., Milwaukee and Superior, Wis. Thirty-five cities report lectures on immigrant education problems, but even these reach only a small proportion of the communities that are conducting evening schools for foreigners.

SALARIES.

In the main, salaries of both teachers and principals in the evening schools are paid on the evening basis, although some teachers are paid by the hour, some by the week, some by the month, and some by the year. The distribution of the various bases upon which teachers' salaries are paid in the 354 places reporting on this point is as follows:

Basis of payment of teachers' salaries.

Towns and cities paying by the—	Number.
Hour (or period).....	41
Evening.....	271
Week.....	15
Month.....	31
Year.....	26
Total.....	354

Principals' salaries are usually paid upon the same basis as the teachers', although in 14 cases the basis is different, seven of these representing the principal's salary upon a monthly basis instead of the hourly or daily basis of the teachers'; five representing a corresponding change to the yearly basis; and two a change from the hourly basis prevailing for the teachers to the evening basis. These

¹ Council Grove, Kans.; Westfield, Mass.; Alpena, Mich.; Conneaut, Ohio; Burlington, Vt.

² Berkeley and Oakland, Cal.; Bordentown, Ridgewood, and Tenafly, N. J.; Ogden, Utah.

few differences would make the distribution basis for the principals' salaries slightly different from that of the teachers' given just before.

Yearly salaries for teachers range from \$80 in the case of Bordentown and Ridgewood, N. J., to \$500 and \$700 in Oakland, Cal. As in the case of day-school salaries, California heads the list, although the difference is not quite so striking as these figures would seem to indicate when one notes that the evening-school year in the two New Jersey towns is only 64 nights as against 187 in Oakland.

The 33 monthly salaries range from the Casino Technical Night School, a privately controlled school in East Pittsburgh, with \$15 per month for three times per week and a nine months' term, and Roslyn, Wash., with three times per week and a four months' term, to Tampa, Fla., with \$80 per month for three times per week and a six months' term, and Spring Valley, Ill., with \$85 per month for six times per week and a ten months' term.

Below will be found a statement in tabular form of the salaries per evening of teachers and principals in three groups of cities, arranged according to population. No attempt has been made to apply exact statistical treatment to these data, but the form found herein will probably be more useful to the ordinary reader. The extremely wide variations go far to vitiate the value of the averages, but the information is sufficiently detailed to enable the school authorities of a given community to estimate roughly the extent to which the salaries in their community conform to the practice in other cities of the same general class.

Salaries of teachers and principals according to population groups.¹

Population.	Group I. Over 100,000.	Group II. 25,000 to 100,000.	Group III. 10,000 to 25,000.
Teachers' salaries:			
Average.....	\$2.20 (36 cities).	\$1.93 (81 cities).	\$1.85 (82 cities).
Range.....	\$1 to \$3.	\$1 to \$3.50.	\$1 to \$3.50.
Most frequent salary.....	\$2.00 (10 cities).	\$2.00 (25 cities).	\$2.00 (26 cities).
Principals' salaries:			
Average.....	\$3.64 (30 cities).	\$3.17 (60 cities).	\$2.70 (51 cities).
Range.....	\$1.50 to \$5.50.	\$1.50 to \$6.00.	\$1.50 to \$5.00.
Most frequent salary.....	\$4.00 (7 cities).	\$3.00 (17 cities).	\$2.00 (16 cities).

From the foregoing table it is evident that on the whole there is a direct relation between the size of the community and the salaries of teachers and principals. There are, however, twice as many cities in Group II paying \$3 per evening or more as there are in Group I. There are also more cities in Group III in this category than in Group I. In some respects this table does not show actual maximum amounts. Hoboken, N. J., for example, a city of the second group, pays its teachers \$3 or \$4 per evening. For tabulating purposes this appears as \$3.50. Pittsburgh and St. Louis each has a

¹ Statistics in Table 6 represent in some instances later information.

maximum principal's salary of \$7 per evening, but they pay \$4 and \$3.50, respectively, as a minimum. In most of the cities there seems to be a fair relation between the salaries of teachers and principals. Gardner, Mass., presents the most striking salary difference, paying its teachers from 75 cents to \$1.25 per evening (appearing in the table as \$1), but its principal \$5 per evening.

NUMBER OF SESSIONS.

Evening-school terms vary widely from Traverse City, Mich., with 20 sessions, 1 per week, to Los Angeles and Oakland, Cal., with 187 sessions, 5 per week. With such a wide range and so much variation, averages mean little. Some of the more significant facts will be apparent from the subjoined table:

Number of sessions in evening-school term, 1914-15—Range of sessions.

Population.	Group I. Over 100,000.	Group II. 25,000 to 100,000.	Group III. 10,000 to 25,000.
Cities reporting.....	43	102	113
Average number of sessions.....	83	79	59
Cities reporting.....	Over 90 sessions, 9 70-90 sessions, 24 Less than 70 sessions, 10	Over 90 sessions, 22 60-90 sessions, 59 Less than 60 sessions, 21	Over 80 sessions, 13 40-80 sessions, 78 Less than 40 sessions, 22

As might be expected, the larger cities as a rule have the longer evening-school sessions; but certain similarities are apparent in the returns for particular States, largely due to the operation of State laws. In California, for example, the session varies in the main between 140 and 187 evenings, for in that State the evening-school term is practically coextensive with that in the day schools. In Connecticut the number is almost uniformly 75 sessions per year, for that is in pursuance of the State law bearing upon the subject. New Jersey, on the other hand, insists upon a 64-session year as one of the conditions for sharing in the grant for evening schools; hence a certain uniformity in that State. Massachusetts, despite its advanced position on the subject of compulsory attendance for illiterates beyond the compulsory school age, seems to have done nothing to provide for a minimum number of sessions. As a result, with few exceptions, the Massachusetts cities are below the average of their population class, as indicated in the table just above, for the number of sessions of their evening schools.

EVENINGS PER WEEK.

The number of sessions per week varies from one to six, with three as the most frequent number. Following will be found the number of cities reporting on this point, classified according to the number of sessions per week.

Classification of cities according to number of evening-school sessions per week.

Cities having evening school—	Cities.
One night per week.....	5
Two nights per week.....	54
Three nights per week.....	175
Four nights per week.....	102
Five nights per week.....	38
Six nights per week.....	12
Total.....	376

From this it appears that the distribution of frequency of evening-school sessions per week approximates the curve of normal distribution. It is evident, therefore, that size of city has relatively little effect on this feature.

SESSION NIGHTS.

Monday is by all odds the most popular night for evening-school sessions. Of 376 cities reporting on this point, 335 have evening school on Monday. Most of the possible evening combinations are found in the returns. The most frequent combination is Monday, Wednesday, Friday, found in 86 cities, closely followed by Monday, Tuesday, Wednesday, Thursday, which occurs in 80 cities. Below will be found all the combinations chosen by 18 or more cities, with the number of cities choosing each combination:

Evening combinations, with number of cities adopting each.

	Cities.
Monday, Wednesday, Friday.....	86
Monday, Tuesday, Wednesday, Thursday.....	80
Monday, Tuesday, Thursday.....	44
Monday, Tuesday, Wednesday, Thursday, Friday.....	38
Tuesday, Thursday.....	23
Monday, Tuesday, Thursday, Friday.....	20
Monday, Wednesday, Thursday.....	18
Scattering.....	67
Total.....	376

HOURS OF SESSIONS.

Evening-school sessions are held at various times, almost any combination of hours being obtainable from 6 o'clock in the evening until half past 10. One community, Ely, Minn., which runs its evening schools in shifts in order to meet the needs of the mine workers, has one group from 4 to 6 in the afternoon and the other from 7 to 9 in the evening. From 7.30 to 9.30 is the commonest hour, 146 (out of 428 communities reporting on this point) having evening-

¹ Chillicothe, Ohio, and Spring Valley, Ill. In neither case does any individual have six nights of work. In Spring Valley it is either Monday, Wednesday, and Friday, or Tuesday, Thursday, and Saturday. In Chillicothe each pupil has from one to three nights per week according to subjects elected. In this latter city there is a relatively small alien population

school sessions at that period. This is closely followed by the 7 to 9 period, which is found in 122 cities and towns, and the 7.30 to 9 period, in 58 communities.

Whatever the time of meeting may be, the two-hour session is very common, 323 out of 428 reporting it. If the 74 cities having a session of an hour and a half are eliminated from the others, the residue scattered all along between one and four hours is practically negligible. Three communities report one-hour sessions, and one, Spring Valley, Ill., reports a four-hour session.

SUMMER SESSIONS.

A few cities report summer sessions for aliens: Los Angeles and Oakland, Cal.; Saginaw (west side), Mich.; Amsterdam, N. Y.; Akron, Ohio (Y. M. C. A.); Cokeburg, Pa. (Ellsworth Collieries Co.).

In Los Angeles, Cal., this was a day session, opening in July and closing in August. Oakland ran its classes in the evening from June 6 to July 28. This gives Oakland practically 52 weeks of evening school, for the summer session bridged the gap between the close of the regular evening-school session, June 2, and the opening of the new school year on July 29.

Amsterdam, N. Y., likewise reports a day session for aliens beginning July 6 and continuing for six weeks. Akron, Ohio, Y. M. C. A., with its summer school for aliens, also rounds out a 52-week year for evening work, with four sessions per week. In Cokeburg, Pa., the evening classes during the summer were classes in sewing for married foreign women.

Lack of funds prevented New York City from conducting its evening classes in English for foreigners in the summer of 1915. These classes had been very successful in 1913-14, the attendance record in that year having been 83.6 per cent, as opposed to 71.7 per cent for the regular winter session.

Summer sessions for foreigners seem especially desirable, for the summer months are the period of greatest immigration. With the short evening-school term (frequently closing in March or even earlier), the first weeks of the foreigner's sojourn in the new land pass by, and a certain tactical advantage is lost. Before fall, the novelty has worn off, the early enthusiasm has been spent, language adjustments have been made, and it is more difficult to bring before the foreigner the necessity of getting into touch with our language and our institutions.

OTHER SESSIONS.

Racine, Wis., reports a continuation school in the afternoons during the regular school year, which was attended by unemployed and night workers. Dunkirk, N. Y., conducted a special day session

for aliens, which was held during the regular day-school hours in the high-school building. This class was composed of a number of foreigners over the age of 20 and up to 50, who were not working and who were glad to seize this opportunity of furthering their knowledge of English. The class continued during a dull industrial period (Feb. 1 to Apr. 1) as an offshoot of the regular evening classes.

PUBLICITY METHODS.

Evening-school authorities, taking the country as a whole, do not yet seem alive to the necessity of bringing their schools to the attention of the people whom they ought to reach. Too frequently a hit-or-miss plan is followed, if indeed publicity is not neglected altogether. "We only advertise through the public press," which fairly typifies the attitude characteristic of one of the more important immigration States, is unfortunately more than many a community attempts to do. Evening classes for foreigners are chiefly intended to teach English, yet too frequently the only notices of such classes are published exclusively in English. What is the chance that the non-English-speaking foreigner will profit by such a notice, whether on bulletin board or in the public press? Where no foreign-language paper is issued in the town, it is possible to have notices in the foreign tongues inserted in the American newspaper (Ithaca, N. Y.). Too little use is made of the foreign-language press.

Many cities and towns report that they are using posters in the foreign language to advertise their schools. From internal evidence, it is apparent that most of these places refer to the use of the "America First," poster which was sent out for the first time in the fall of 1915 by the Bureau of Education. A few communities, however, note the use of such foreign-language posters before this present year (notably Fall River, Fitchburg, and New Bedford, Mass., Jersey City, N. J.). Posters are placed in "stores, meat markets, pool rooms, saloons, and factories" (Madison, Wis.), on electric-light poles (Milwaukee, Wis.), and in street cars (Jackson, Mich.).

Cooperating committees of foreigners are called upon in a few instances to encourage evening-school attendance, but this means of publicity seems on the whole to have been neglected. Neighborhood centers in public school buildings are surprisingly few. One superintendent, who fortunately is not typical, expresses himself very forcibly on this point: "We do not encourage foreigners' societies to meet in school buildings. Our school buildings are for Americans only."

Children in the public schools are frequently used as messengers to carry invitations to parents and other adult members of their

households, Chicago having distributed 400,000 handbills by this means in 1914-15. Church cooperation is utilized to some extent. In Trenton, N. J., for instance:

Announcements are made in all the churches and Sunday schools, being especially emphasized in Catholic churches by request of the bishop. Announcements are also made in day public and parochial schools. Circular letters are sent to employers, labor organizations, foreigners' clubs and societies, and civic clubs.

In Dunkirk, N. Y., "notices are put in all the pay rolls in the city." Buffalo, N. Y., employs a home visitor, while certain Pennsylvania towns (Cokeburg, East Pittsburgh, and Ford City) have a personal house-to-house canvass made by visitors who speak the language of the foreigners.

So far as is known seven cities and towns in the country (Boston and Waltham, Mass., Providence and Warren, R. I., and Manitowoc, Superior, and Two Rivers, Wis.) utilize the moving-picture theaters to show slides announcing their evening schools.

In Boston—

posters are placed on the dashboards of electric cars. Motion-picture establishments announce the opening of evening schools, local and foreign newspapers are used in gaining publicity, individual principals circulate notices and handbills printed in the various languages, and an attempt is made to secure the cooperation of all existing agencies that are interested in the training of immigrants for citizenship.

The extensive and successful publicity campaigns carried on in Detroit, Mich., and Syracuse, N. Y., are significant of what can be done.

Detroit is a typical immigration city. Attracted by the lure of heavy demands for labor and good wages, foreign workmen had flocked there by the scores of thousands. Business men were quick to recognize the need for Americanizing these people, and they wisely turned to the evening schools as the means for accomplishing this purpose. Backed by the chamber of commerce, a city-wide campaign was opened, with cooperation of all available forces as the watchword. Employers of labor, churches, priests and pastors, municipal departments, social and philanthropic organizations, employment agencies, clubs, neighboring educational authorities, interested individuals, the foreign-language and the English press, all pulled together. As a first result, an increase of 153 per cent in the registration of evening schools was reported. It is yet too early to express an opinion as to the ultimate effects of this campaign. Such initial success, however, is a harbinger of greater effectiveness for the future.¹

¹ "Americanizing a City," a pamphlet prepared for the Bureau of Education for general distribution, contains an account of the Detroit campaign.

COOPERATION WITH NATURALIZATION AUTHORITIES.

Much work remains to be done in urging the schools to greater efforts in reaching applicants for naturalization and in gathering them into the evening school. A few places send the regular truant officer, armed with the Government blanks, to the homes of applicants for naturalization. These applicants are thus urged through personal solicitation to attend the night school. Ninety days, however, is far too short a time to accomplish much with either English or citizenship instruction. Some means must be devised of catching these prospective citizens earlier. School authorities are certainly derelict in looking up even these applicants for citizenship. Only 213 cities out of 438 reporting on this point make any definite effort to get into touch with the applicants for naturalization, and these returns cover practically all the principal cities of the country which have evening schools for foreigners. Some (132) state definitely that they do nothing along this line, while the others (93) fail to report. It is probably safe to assume that they, too, are doing nothing.

Despite the efforts of the Federal Government to bring about a closer cooperation between the naturalization courts and the schools, results are still far from satisfactory. Fewer than 20 per cent of these 438 cities report any recognition accorded English and civics classes by naturalization clerks. Ignorance on the part of school authorities with reference to the practice of naturalization clerks in recognizing school work is somewhat striking. Some confess frankly that they have no knowledge on the subject, while others disregard the question, the inference naturally being that they are not in touch with this court procedure.

Los Angeles, on the other hand, has developed a unique cooperation with the naturalization courts. Every applicant who attends a citizenship class and meets a certain scholastic standard is given a certificate which is recognized by the naturalization court. Periodically a formal welcome is given to the new citizens under the auspices of the courts, with the cooperation of the board of education and civic and patriotic organizations. With the judge of the court as presiding officer, each naturalization applicant is called up individually and is publicly awarded his certificate of citizenship.

There is need, however, for wider cooperation between the courts of naturalization and the schools, for the schools can be of invaluable assistance to the court officials if an effective plan of cooperation can only be evolved.

The citizenship reception in Philadelphia, May, 1915, at which the newly naturalized citizens were addressed by President Wilson, is still fresh in people's minds. Other cities have likewise done their part in holding similar gatherings to welcome the new citizens, and in giving them some realization of the solemnity of the step they are taking.

STATISTICAL TABLES.

TABLE 1.—*Foreign-born white population, by States, with per cent of total white population, census of 1910.*

States.	Number.	Per cent.	States.	Number.	Per cent.
United States.....	13,345,545	16.3	South Dakota.....	100,628	17.8
New York.....	2,729,272	30.4	New Hampshire.....	96,558	22.5
Pennsylvania.....	1,436,719	19.3	Montana.....	91,644	25.4
Illinois.....	1,202,560	21.8	Utah.....	63,393	17.3
Massachusetts.....	1,051,050	31.6	West Virginia.....	57,072	4.9
New Jersey.....	658,188	26.9	Louisiana.....	51,782	5.5
Ohio.....	597,245	12.8	Vermont.....	49,861	14.1
Michigan.....	595,524	21.4	Arizona.....	46,824	27.3
Minnesota.....	513,010	26.4	Idaho.....	40,427	12.7
California.....	517,250	22.9	Oklahoma.....	40,084	2.8
Wisconsin.....	512,569	22.1	Kentucky.....	40,053	2.0
Connecticut.....	328,759	29.9	Florida.....	33,842	7.6
Iowa.....	273,484	12.4	Wyoming.....	27,118	19.3
Washington.....	211,197	21.7	Virginia.....	26,628	1.9
Texas.....	239,984	7.5	District of Columbia.....	24,351	10.3
Missouri.....	228,896	7.3	New Mexico.....	22,654	7.4
Rhode Island.....	178,025	33.4	Alabama.....	18,956	1.5
Nebraska.....	175,865	14.9	Tennessee.....	18,459	1.1
Indiana.....	159,322	6.0	Nevada.....	17,999	24.2
North Dakota.....	156,158	27.4	Delaware.....	17,420	10.2
Kansas.....	155,190	8.3	Arkansas.....	16,909	1.5
Colorado.....	126,851	16.2	Georgia.....	15,072	1.1
Maine.....	110,133	14.9	Mississippi.....	9,389	1.2
Maryland.....	104,174	9.8	South Carolina.....	6,054	.9
Oregon.....	103,901	15.7	North Carolina.....	5,942	.4

TABLE 2.—*Illiteracy among foreign-born whites, with per cent of total foreign-born white population, census of 1910.*

[Figures for 10 years of age and over.]

States.	Number.	Per cent.	States.	Number.	Per cent.
United States.....	1,650,361	12.7	Louisiana.....	12,085	24.0
New York.....	362,065	13.7	Maryland.....	12,047	11.9
Pennsylvania.....	279,668	20.1	Washington.....	11,233	4.8
Massachusetts.....	129,412	12.7	North Dakota.....	9,474	6.3
Illinois.....	117,571	10.1	Montana.....	8,445	9.4
New Jersey.....	93,551	14.7	New Mexico.....	6,580	31.0
Texas.....	67,295	30.0	Vermont.....	6,239	13.1
Ohio.....	66,887	11.5	Oregon.....	6,120	6.1
Michigan.....	54,113	9.3	South Dakota.....	4,896	5.0
California.....	50,292	10.0	Oklahoma.....	3,828	9.8
Connecticut.....	49,202	15.4	Utah.....	3,636	5.9
Wisconsin.....	43,662	8.7	Florida.....	3,390	10.5
Minnesota.....	40,627	7.6	Delaware.....	3,359	19.8
Rhode Island.....	29,781	17.3	Kentucky.....	3,300	8.3
Virginia.....	25,639	9.2	Idaho.....	2,742	6.9
Missouri.....	22,631	10.1	Wyoming.....	2,548	9.7
Indiana.....	18,300	11.7	Alabama.....	2,063	11.3
Iowa.....	16,894	6.3	District of Columbia.....	1,944	8.2
Maine.....	14,394	13.7	Tennessee.....	1,488	8.3
Colorado.....	13,897	11.3	Arkansas.....	1,466	8.9
Kansas.....	13,787	10.5	Mississippi.....	1,364	15.1
Arizona.....	13,758	31.5	Nevada.....	1,344	7.6
New Hampshire.....	13,485	14.5	Georgia.....	875	6.0
West Virginia.....	13,073	23.9	North Carolina.....	477	8.3
Nebraska.....	12,264	7.1	South Carolina.....	399	6.8

TABLE 3.—*Inability to speak English among foreign-born whites, with per cent of total foreign-born white population, census of 1910.*

[Figures for 10 years of age and over.]

States.	Number.	Per cent.	States.	Number.	Per cent.
United States.....	2,953,011	22.8	Maine.....	19,589	18.6
New York.....	597,012	22.7	South Dakota.....	18,486	18.8
Pennsylvania.....	466,825	33.6	Maryland.....	17,544	17.4
Illinois.....	266,557	22.8	Florida.....	14,049	43.7
Massachusetts.....	171,014	16.8	Montana.....	13,718	15.3
Ohio.....	163,722	28.3	Oregon.....	13,531	13.4
New Jersey.....	153,861	24.2	New Mexico.....	11,776	55.5
Texas.....	125,765	56.0	Louisiana.....	11,547	22.9
Wisconsin.....	120,665	24.0	Vermont.....	8,342	17.5
Michigan.....	102,286	17.6	Utah.....	8,129	13.1
Minnesota.....	89,850	16.8	Oklahoma.....	7,975	20.4
California.....	74,706	14.8	Wyoming.....	5,970	22.6
Connecticut.....	64,201	20.1	Idaho.....	5,805	14.7
Indiana.....	40,731	26.2	Delaware.....	4,824	28.5
Missouri.....	37,747	16.9	Virginia.....	3,983	15.5
Iowa.....	37,169	13.8	Kentucky.....	3,816	9.6
Rhode Island.....	36,961	21.5	Nevada.....	3,557	20.0
North Dakota.....	33,491	22.3	Alabama.....	3,028	16.6
Nebraska.....	29,519	17.1	Arkansas.....	2,741	16.7
Kansas.....	28,358	21.5	Tennessee.....	1,648	9.2
West Virginia.....	27,461	50.3	Mississippi.....	1,491	16.5
New Hampshire.....	26,783	28.8	District of Columbia.....	1,349	5.7
Washington.....	25,568	10.9	Georgia.....	953	6.5
Arizona.....	25,072	57.3	North Carolina.....	779	13.6
Colorado.....	22,610	18.4	South Carolina.....	447	7.6

TABLE 4.—*School attendance among foreign-born whites, by age groups, census 1910.*

States.	Total number.	10 years of age and over.	15 years of age and over.	21 years of age and over.
United States.....	651,506	446,745	138,253	35,514
New York.....	187,034	131,541	43,492	9,603
Pennsylvania.....	69,257	45,640	10,804	2,894
Massachusetts.....	57,499	40,404	14,117	2,976
Illinois.....	50,451	32,402	9,153	3,463
New Jersey.....	35,001	23,016	6,036	1,766
Ohio.....	26,442	16,987	4,342	1,184
Michigan.....	25,281	17,374	5,328	1,357
California.....	19,203	13,406	4,716	1,146
Connecticut.....	17,563	11,536	3,117	690
Minnesota.....	17,469	12,574	4,948	1,640
Wisconsin.....	15,889	10,397	2,934	1,039
Rhode Island.....	10,285	7,183	1,746	479
Texas.....	10,176	7,714	2,200	413
Washington.....	9,672	6,883	2,348	564
North Dakota.....	9,494	7,326	2,563	535
Missouri.....	7,834	5,123	1,542	567
Maine.....	7,165	4,871	1,409	240
Iowa.....	6,755	4,573	1,735	671
Colorado.....	5,927	4,090	1,261	305
Nebraska.....	5,528	3,780	1,419	509
New Hampshire.....	5,602	3,827	926	150
Indiana.....	5,210	3,365	1,172	537
Maryland.....	5,015	3,323	1,021	439
Kansas.....	4,538	3,168	1,066	288
South Dakota.....	3,644	2,766	1,105	300
Oregon.....	3,416	2,407	920	242
Vermont.....	3,380	2,248	664	70
Arizona.....	2,783	1,886	423	37
Montana.....	2,716	1,906	697	161
Utah.....	2,520	1,796	629	182
West Virginia.....	2,259	1,443	360	80
Florida.....	1,838	1,202	346	91
Louisiana.....	1,718	1,201	376	84
Oklahoma.....	1,554	1,152	424	101
Virginia.....	1,334	938	314	73
District of Columbia.....	1,195	886	397	161
New Mexico.....	1,166	772	243	26
Idaho.....	1,128	819	323	81
Alabama.....	897	622	187	44

TABLE 4.—*School attendance among foreign-born whites, by age groups, census 1910—Continued.*

States.	Total number.	10 years of age and over.	15 years of age and over.	21 years of age and over.
Kentucky.....	896	631	274	121
Tennessee.....	839	622	236	51
Wyoming.....	818	538	166	47
Georgia.....	721	536	206	55
Delaware.....	627	417	88	28
Arkansas.....	539	392	152	43
Mississippi.....	371	265	98	26
North Carolina.....	302	232	88	18
Nevada.....	283	197	88	24
South Carolina.....	222	163	54	13

TABLE 5.—*Foreign-born whites: Number unable to speak English, illiterate, and attending school, by age groups for the United States as a whole, census 1910.*

Age limits.	Unable to speak English.	Illiterate.	Attending school.
10 years and over.....	2,953,011	1,650,361	446,745
15 years and over.....	2,896,606	1,657,677	138,253
21 years and over.....	2,565,612	1,546,535	35,614

The large majority of those unable to speak English and the illiterate are found in the "over 21 years of age" group. The number in the same group attending school is almost insignificant.

TABLE 6.—*Statistics relating to evening schools, 1914-15.*

[NOTE.—Y indicates Yes; N indicates No; indicate No data.]

Cities and towns.	Census of 1910.		Evening schools.			Sessions.			Fees. ¹	Depos-its.	Salaries (per evening unless otherwise indicated).		Enroll-ment of foreign pupils.
	Popula-tion.	Foreign-born whites.	Public.	Public, with classes for foreign-ers.	Private, with classes for foreign-ers.	Num-ber of ses-sions.	Evenings of week.	Hours.			Teachers.	Principals.	
1	2	3	4	5	6	7	8	9	10	11	12	13	14
ALABAMA.													
Birmingham.....	132,685	3,160	Y	Y	Y	72	M, W, F	7.30-9.30	N	Y	2 \$1.00	2 \$1.25	90
Mobile.....	51,521	1,297	N	N	Y	60	M, W, F	7.30-9.30	Y		3 20.00		9
Montgomery.....	38,136	420	N	N	Y	80-90	M, W, F	$\left\{ \begin{array}{l} 7.30-10.00 \\ 8.00-10.30 \end{array} \right.$	N	N	0		18
ARIZONA.													
Globe.....	7,083	1,949	Y										
ARKANSAS.													
Fort Smith.....	23,975	941	Y										
CALIFORNIA.													
Alameda.....	23,383	5,555	Y	Y		150	M, T, W, Th	7.00-9.00	N	N	4 40.00-50.00	5 600.00	12
Berkeley.....	40,434	7,633	Y	Y		159	M, T, W, Th	7.30-9.30	N	N	5 500.00	5 500.00-600.00	100
Fresno.....	24,892	5,445	Y	Y		142	M, T, W, Th	7.00-9.00	N	N	2.00	2.50	200
Los Angeles.....	319,198	69,584	Y	Y		187	M, T, W, Th, F	7.00-9.00	N	N	2.00-3.00	4 60.00-100.00	400
Oakland.....	150,174	36,822	Y	Y		187	M, T, W, Th, F	7.15-9.15	N	N	5 500.00	5 700.00	751
Pomona.....	10,207	882	Y	Y		42	M, Th	7.00-9.15	N	N	3.00		32
Redlands.....	10,449	1,346	Y	Y		178	M, T, W, Th, F	7.00-9.00	N	N			53
Sacramento.....	44,686	8,885	Y	Y		192	M, T, W, Th, F	7.15-9.15	N	N	5 600.00	5 1,000.00	600
San Francisco.....	416,912	130,874	Y	Y		185	M, T, W, Th, F	7.00-9.00	N	N	4 50.00	4 75.00	90
San Jose.....	28,946	5,817	Y	Y		80	M, T, W, Th, F	7.00-9.00	N	N	4 50.00	4 60.00	168
San Leandro.....	3,471	1,108	Y	Y		124	M, T, Th	7.00-9.00	N	N	4 30.00		43
San Rafael.....	5,934	1,747	Y	Y		72	M, T, Th	7.00-9.00	N	N	0		60
Santa Ana.....	8,429	884	Y	Y		62	M, W	7.00-9.00	N	N	2.50	3.00	
Santa Monica.....	7,847	1,248	Y	Y				7.15-9.15	N	N			

COLORADO.									
Denver.....	213, 381	38, 941	Y	Y	94	M, T, W, Th M, W, Th	7.30-9.15 7.15-9.30	N Y	200
Lamar.....	2, 977	203	Y	Y	160	M, T, W, Th, F	7.00-8.30	N	150
Pueblo.....	44, 395	8, 331	Y	Y					
CONNECTICUT.									
Ansonia.....	15, 152	5, 711	Y	Y	75	M, T, W, Th	7.30-9.30	6 Y	150
Avon.....	1, 337		Y	Y	32	M, W	7.00-9.00	N	
Bridgeport.....	102, 054	36, 180	Y	Y	75	M, T, W, Th, F	7.00-9.00	N	1, 283
Bristol.....	13, 502	3, 829	Y	Y	75	M, T, Th, F	7.15-9.15	N	2, 265
Danbury.....	23, 502	5, 529	Y	Y	75	M, T, W, Th	7.15-9.15	N	191
Enfield.....	9, 719	3, 787	Y	Y					
Greenwich.....	16, 463	5, 080	Y	Y					
Hartford.....	98, 915	31, 243	Y	Y	75	M, T, W, Th	7.30-9.30	N	3, 000
Huntington.....	6, 545	1, 758	Y	Y	75	M, T, Th, F	7.30-9.30	N	195
Meriden.....	32, 066	9, 390	Y	Y	75	M, T, W, Th	7.30-9.10	N	302
Middletown.....	11, 851	3, 800	Y	Y	75	M, T, Th, F	7.30-9.15	N	200
Naugatuck.....	12, 722	4, 283	Y	Y	75	M, T, W, F	7.30-9.30	N	119
New Britain.....	43, 916	18, 015	Y	Y	75				1, 423
New Haven.....	133, 605	42, 784	Y	Y					
New London.....	19, 659	4, 861	Y	Y	75	M, T, W, Th, F	7.00-9.00	N	265
New Milford.....	5, 010	852	Y	Y	40	M, T, W, Th	7.00-9.30	N	35
Norwalk.....	24, 211	5, 086	Y	Y	75	M, T, W, Th, F	7.30-9.30	N	85
Norwich.....	28, 219	8, 405	Y	Y	75	M, T, W, Th, F	7.30-9.00	N	289
Plainville.....	2, 882	528	Y	Y	24	M, W	7.00-9.00	N	51
Rockville.....	7, 977	2, 764	Y	Y	75	M, W, F	7.30-9.00	N	80
Southington.....	6, 516	1, 724	Y	Y	75	M, T, W, Th, F	7.30-9.30	N	30
South Manchester ¹			Y	Y	75	M, T, W, Th, F	7.30-9.30	N	179
Stamford.....	28, 836	8, 872	Y	Y	80	M, T, W, Th, F	7.00-9.00	N	951
Torrington.....	16, 840	6, 064	Y	Y	75	M, T, Th, F	7.00-9.00	N	68
Wallingford.....	11, 155	3, 302	Y	Y	75	M, T, W, Th	7.00-9.00	N	78
Waterbury.....	73, 141	23, 498	Y	Y	83	M, T, Th, F	7.15-9.15	N	341
Winsted ⁸	7, 754	1, 552	Y	N	30	M, T, W	7.30-9.30	N	
DELAWARE.									
Wilmington.....	87, 411	13, 678	Y	9 Y	60	M, W, F	7.00-9.00	N	178
DISTRICT OF COLUMBIA.									
Washington.....	331, 069	24, 351	Y	Y	63	M, W, F	7.30-9.30	N	536
FLORIDA.									
Jacksonville.....	57, 699	2, 488	Y	Y	72	M, T, W	7.00-9.00	N	432
Tampa.....	37, 782	9, 896	Y	Y					

¹ No account has been taken of the rather prevalent custom of charging fees to nonresidents.⁷ District in the town of Manchester.² Per hour or period.⁸ Borough in the town of Winchester.³ Per week.⁹ Under 21 years of age.⁴ Per month.

TABLE 6.—*Statistics relating to evening schools, 1914-15—Continued.*

[NOTE.—Y indicates Yes; N indicates No; indicate No data.]

Cities and towns.	Census of 1910.		Evening schools.			Sessions.			Fees.	Depos-its.	Salaries (per evening unless otherwise indicated).		Enroll-ment of foreign pupils.
	Popula-tion.	Foreign-born whites.	Public.	Public, with classes for foreigners.	Private, with classes for foreigners.	Num-ber of ses-sions.	Evenings of week.	Hours.			Teachers.	Principals.	
1	2	3	4	5	6	7	8	9	10	11	12	13	14
GEORGIA.													
Athens.....	14,913	183											
Atlanta.....	154,839	4,410	Y	N		177	M, T, W, Th, F	7.00-9.00	N	N	\$1.00	\$1.50	6
Dublin.....	5,759	38	Y										
IDAHO.													
Boise.....	17,358	2,283	Y										
ILLINOIS.													
Aurora.....	29,807	6,702	Y	Y		40	M, Th	7.30-9.00	N	Y	1.50		85
Blue Island.....	8,043	1,903	Y	Y		134	M, T, W, Th	7.00-9.00			1.20	1.30.00	101
Canton.....	10,453	1,122	Y	N	Y	124	M, W, F	7.30-9.00	N	Y	1.00		44
Chicago.....	2,185,283	781,217	Y	Y	Y	77	M, T, W, Th	{ 7.00-9.00 7.15-9.15 7.30-9.30 }	N	2 Y	2.00-2.50	5.00	17,645
Cicero.....	14,557	6,072	Y	Y		88		7.30-9.30	N	N	2.50		363
De Kalb.....	8,102	2,384	Y	Y									
East St. Louis.....	58,547	9,400	Y	Y		143	M, T, W, Th, F	7.00-9.00	2 Y	N	1.35.00		166
Elgin.....	25,976	5,661	Y	N	Y	25	Th	7.30-9.30					13
Evanston.....	24,978	5,700	Y										
Geneva.....	2,451		Y	Y		24	T, Th	7.00-9.00	Y		1.00		30
Granite City.....	9,903	2,185	Y	Y		90	M, T, W, Th	7.30-9.30	Y		3 1.00	1.20.00	33
Harvey.....	7,227	2,203	Y	N		36	M, W, F	7.00-9.00	Y				
Joliet.....	34,670	10,441	Y	Y		98	M, T, W, Th	7.00-9.00	N	N	2.00		206
Kewanee.....	9,307	2,186	Y										
La Salle.....	11,537	3,442	Y	Y		59	M, W, F	7.15-9.30	N		1.30.00		42
Moline.....	24,199	7,211	Y	Y		50	M, T, Th	7.30-9.30	Y		1.50	3.00	224
Murphysboro.....	7,485	402	Y										
Oak Park.....	19,444	3,325	Y	Y		36	M, T, W	7.00-9.00	N		2.50	3.00	
Peoria.....	66,950	8,810	Y	Y		100	M, T, W, Th, F	7.00-9.00	N	Y	1.40.00	1.50.00	100
Rockford.....	45,401	13,828	Y	Y		52	M, T, Th	7.00-9.00	Y	Y	2.00	2.50	461

Rock Island.....	24,335	4,922	Y	Y	40	T, Th M, W, F	7.30-9.00 7.00-9.00	Y	Y	1.50 3.75	51 74
St. Charles.....	4,046	1,572	Y	Y	48						
Springfield.....	51,678	6,900	Y	Y							
Spring Valley.....	7,035	3,329	Y	Y		M, T, W, Th, F, S	6.15-10.15	Y	N	170.00-85.00	53
Stanton.....	5,048	1,950	Y	Y							75
Sycamore.....	3,926	686	N	N	39	M, T, F	7.00-9.00	N	N	0	30
Virden.....	4,000	826	Y		35		7.00-9.00	N		0	
INDIANA.											
Anderson.....	22,476	977	Y	Y	24		7.30-9.30	N	N		
Brazil.....	9,340	725	Y			M, T, W, Th, F	6-8 or 10	N	N		
Clinton.....	6,229	1,865	N	N		M, F	6.30-8.00	N	N		40
Crawfordsville.....	9,371	181	N	N	40	M, T, W, Th	7.00-9.00	2 Y			
East Chicago.....	19,098	10,295	Y	Y	84	M, T or W, Th	7.00-9.00	2 Y	N	2.00	642
Evansville.....	69,647	4,462	Y	Y	72	M, T, Th	7.30-9.30	N	N		
Fort Wayne.....	63,933	7,204	Y	Y	96	T, Th or F	7.30-9.00	N		2.00	65
Gary.....	16,802	8,242	Y	Y							
Greencastle.....	3,790	90	Y								
Hammond.....	20,925	5,553	Y	Y							
Indianapolis.....	233,650	19,767	Y	Y	80	M, T, W, Th	7.15-9.00	N	Y	2.25	200
La Fayette.....	20,081	2,019	Y	Y	108	M, T, W, Th, F	7.00-9.00	N	N	3.00-4.00	131
Laporte.....	10,525	1,954	Y	Y	66	M, T, Th	7.30-9.00	N	N	3.2.00	32
Logansport.....	19,050	1,405	Y	Y	48	T or W, Th or F	7.30-9.30	N	N	1.50-2.10	
Muncie.....	24,005	840	Y	N							
New Albany.....	20,629	858	Y								
Richmond.....	22,324	1,173	Y	Y	80	M, T, W, Th	7.30-9.00	N	N	1.50-2.00	175
South Bend.....	53,684	13,420	Y	N							
Whiting.....	6,587	2,888	Y								
IOWA.											
Cedar Falls.....	5,012	753	N	N	30		7.30-9.30	N	N		
Cedar Rapids.....	32,811	5,321	Y	Y	80	M, W, F	7.30-9.30	N		1.50	116
Charles City.....	5,892	821	Y	Y						2.00	
Davenport.....	43,028	8,101	Y	Y	70	M, W, F	7.30-9.30	2 Y	Y	3.00	91
Des Moines.....	86,368	10,395	Y	Y	60	M, T, Th	7.30-9.30	2 Y	Y	3.00	80
Dubuque.....	38,494	6,089	Y	Y	58	M, T, Th	7.30-9.30	Y	Y	2.00	40
Marshalltown.....	13,374	1,430	N	N		M, T, W, Th, F	7.30-8.30	2 Y	Y	3 1.00	10
Mason City.....	11,230	1,508	Y	Y	40	M, T, Th	7.30-9.30	Y	Y	1.75	34
Ottumwa.....	22,012	1,745	Y	Y	60	M, W, F	7.30-9.30	N	N	1.00	12
Sioux City.....	47,828	10,452	Y	Y	48	M, W, F	7.00-9.30	Y	Y	2.00	158
KANSAS.											
Council Grove.....	2,545	138	Y	Y	105	M, T, W, Th	7.30-9.30	N	N	4 8.00	105
Garden City.....	3,171	165	N	Y		T, Th	7.30-9.00	N	Y	0	5
Kansas City.....	82,331	10,344	Y	Y	60	M, W, F	7.30-9.30	N	N	2.00-3.00	48
Parsons.....	12,463	443	Y								
Pittsburg.....	14,755	1,137	Y	Y							
Roseland.....	396		Y	Y	72	M, W, F	6.30-9.00	N	N	1.30.00	3
Topeka.....	43,684	4,153	Y	Y	90	M, W, F	7.30-9.30	N	N	3 1.00	80

1 Per month.

2 For certain pupils.

3 Per hour or period.

4 Per week.

4 Per week.

3 Per hour or period.

2 For certain pupils.

1 Per month.

TABLE 6.—*Statistics relating to evening schools, 1914-15—Continued.*

[NOTE.—Y indicates Yes; N indicates No; indicate No data.]

Cities and towns.	Census of 1910.		Evening schools.			Sessions.			Fees.	Depos- its.	Salaries (per evening unless otherwise indicated).		Enroll- ment of foreign pupils.
	Popula- tion.	Foreign- born whites.	Public.	Public, with classes for for- eigners.	Private, with classes for for- eigners.	Num- ber of ses- sions.	Evenings of week.	Hours.			Teachers.	Principals.	
1	2	3	4	5	6	7	8	9	10	11	12	13	14
KENTUCKY.													
Covington.....	53,270	3,933											
Dayton.....	6,979	564	Y	N		96	M, W, F	7.30-9.30	N				
Lexington.....	35,099	936	Y	N		36	M, W, F	7.00-9.00	1 Y				15
Louisville.....	223,928	17,436	Y	Y		111	M, W, Th	7.30-9.30	1 Y		\$1.50	\$2.00	
Maysville.....	6,141	139	Y	Y			M, T, W, Th, F	7.30-9.30	Y		1.50	2.50	
Owensboro.....	7,733	143	Y	N	N	24							
LOUISIANA.													
La Fayette.....	6,392	187	Y	N									
New Orleans.....	339,075	27,686	Y	Y		70	M, W, F	7.30-9.30	N		2.75	3.25	142
MAINE.													
Auburn.....	15,064	2,574	Y	Y		39	M, W, F	7.00-8.45	Y		1.50-2.00	2.00	167
Bath.....	9,396	1,315	Y	Y		100	M, T, W, Th	7.15-9.15	N		2.00	4.00	12
Hallowell.....	2,864	309	Y	Y		18	M, W, Th	7.00-9.00	N		1.00	1.25	32
Lewiston.....	26,247	9,418	Y	Y		80	M, T, Th, F	7.10-9.00	N	Y	1.25-2.00	2.00-2.50	346
Portland.....	58,571	12,078	Y	Y		84	M, T, W, Th	7.15-9.15	N		2.00-3.00	3.00	
Rumford.....	6,777	2,634	Y	Y		60	M, T, Th	7.00-8.30	Y		1.00-1.50	1.50	92
Skowhegan.....	5,341	783	Y	Y		72	M, W, F	7.00-9.00	N		1.50	2.00	14
Waterville.....	11,458	2,688	Y	Y		100	M, T, Th, F	7.15-8.30	N	Y	1.00		70
MARYLAND.													
Baltimore.....	558,485	77,043	Y	Y		65		7.30-9.30	N		2.00	3.00	2,103
MASSACHUSETTS.													
Adams.....	13,026	5,097	Y	Y		42	M, T, Th	7.15-9.00	N		1.50	2.00	176
Attleboro.....	16,215	4,453	Y	Y		42	M, T, Th	7.30-9.15	1 Y		1.50	2.50	127

Belmont	5,542	1,572	Y	Y	Y	Y	63	M, W, F	7.30-9.30	N	N	2.00	32
Beverly	15,650	4,661	Y	Y	Y	Y	73	M, T, W, Th	7.15-9.15 7.30-9.30	N	Y	2.00	227
Boston	670,585	240,722	Y	Y	Y	Y	88	M, T, W, Th	7.30-9.30	Y	Y	2.00	8,500
Bridgewater	7,688	2,317	Y	Y	Y	Y	60	M, T, Th	7.00-9.00	Y	Y	2.00	---
Brockton	56,878	15,425	Y	Y	Y	Y	62	M, W, F	7.15-9.15	Y	Y	2.00	---
Brookline	27,792	8,345	Y	Y	Y	Y	57	M, W, F	7.30-9.30	N	Y	1.50-2.00	1,506
Cambridge	104,839	34,608	Y	Y	Y	Y	60	M, T, Th	7.30-9.30	N	Y	1.50-2.00	152
Canton	4,797	1,156	Y	Y	Y	Y	60	M, T, Th	7.30-9.30	N	Y	1.50-2.00	917
Chelsea	32,452	13,748	Y	Y	Y	Y	58	M, T, W	7.00-9.00	Y	Y	1.50	---
Chicopee	23,401	10,086	Y	Y	Y	Y	30	M, T, W	7.15-9.00	Y	Y	2.00	257
Cintion	13,075	4,798	Y	Y	Y	Y	60	M, T, Th	7.30-9.30	N	Y	1.00	233
Easthampton	8,524	3,077	Y	Y	Y	Y	46	M, W, Th	7.00-9.00	N	Y	2.00-2.50	125
Everett	33,484	9,607	Y	Y	Y	Y	100	M, W, Th	7.00-9.00	N	Y	1.25-1.50	1,563
Fall River	112,285	50,854	Y	Y	Y	Y	30	M, T, W, Th	7.15-9.15	N	Y	1.10	541
Fitchburg	37,826	13,611	Y	Y	Y	Y	20	M, T, Th	7.15-9.00	N	Y	2.00	302
Framingham	12,948	3,156	Y	Y	Y	Y	37	M, T, Th	7.30-9.30	N	Y	1.50-2.00	100
Franklin	5,641	1,504	Y	Y	Y	Y	32	M, T, Th	7.00-9.00	N	Y	.75-1.25	527
Gardner	14,699	5,312	Y	Y	Y	Y	75	M, W, F	7.00-9.00	N	N	1.35	96
Gloucester	24,398	7,484	Y	Y	Y	Y	60	M, W, F	7.00-9.00	N	N	1.00	574
Greenfield	10,427	1,918	Y	Y	Y	Y	55	M, W, F	7.15-9.15	N	N	1.50	860
Haverhill	44,115	11,153	Y	Y	Y	Y	66	M, W, Th	7.00-9.00	N	Y	1.50	1,661
Holyoke	57,730	23,238	Y	Y	Y	Y	44	M, W, Th	7.00-9.00	N	Y	2.50-5.00	324
Hudson	6,743	1,790	Y	Y	Y	Y	71	M, W, Th	7.00-9.00	Y	Y	1.25	686
Lawrence	85,892	41,319	Y	Y	Y	Y	78	M, T, Th	7.30-9.30	N	Y	2.00	225
Leominster	17,580	4,875	Y	Y	Y	Y	50	M, T, Th	7.00-9.00	N	Y	1.50	95
Lowell	106,294	43,457	Y	Y	Y	Y	57	M, T, Th	7.15-9.15	N	N	3.75	30
Lynn	89,336	27,344	Y	Y	Y	Y	33	M, W, Th	7.30-9.30	N	Y	2.00-3.00	90
Malden	44,404	13,430	Y	Y	Y	Y	42	M, W, Th	7.30-9.30	N	Y	2.00	93
Marlboro	14,579	3,344	Y	Y	Y	Y	43	M, W, F	7.15-9.15	N	Y	1.50	66
Medford	23,150	5,126	Y	Y	Y	Y	54	M, W, F	7.30-9.00	N	Y	3.00-3.50	1,837
Methuen	11,448	4,501	Y	Y	Y	Y	52	M, W, F	7.00-9.00	N	Y	2.00	523
Millford	13,055	4,331	Y	Y	Y	Y	60	M, T, Th	7.00-9.00	N	Y	1.00	100
Millord	6,860	1,936	Y	Y	Y	Y	48	M, T, Th	7.45-9.15	N	Y	1.50-2.00	178
Montague	9,860	1,997	Y	Y	Y	Y	32	M, T, W, Th	7.30-9.30	N	Y	1.40	147
Natick	9,860	1,997	Y	Y	Y	Y	70	M, T, W, Th	7.30-9.00	Y	Y	1.50-2.00	147
Needham	5,026	1,584	Y	Y	Y	Y	24	M, W	7.00-9.00	N	N	2.00	295
New Bedford	96,652	42,625	Y	Y	Y	Y	51	M, W, F	7.30-9.30	N	N	1.00	377
Newburyport	14,949	3,007	Y	Y	Y	Y	49	M, W, F	7.30-9.30	N	N	1.50-2.50	---
Newton	39,806	11,191	Y	Y	Y	Y	43	M, T, Th	7.00-9.00	N	Y	2.00	---
North Adams	22,019	6,046	Y	Y	Y	Y	43	M, T, Th	7.00-9.00	N	Y	1.50	---
North Adams	22,019	6,046	Y	Y	Y	Y	43	M, T, Th	7.00-9.00	N	Y	1.50	---
Northampton	19,431	4,880	Y	Y	Y	Y	60	M, T, Th	7.45-9.15	N	Y	1.00	---
Northampton	19,431	4,880	Y	Y	Y	Y	60	M, T, Th	7.45-9.15	N	Y	1.00	---
North Attleboro	9,562	2,490	Y	Y	Y	Y	48	M, T, Th	7.30-9.30	N	Y	1.50-2.00	45
North Attleboro	9,562	2,490	Y	Y	Y	Y	48	M, T, Th	7.30-9.30	N	Y	1.50-2.00	45
Northbridge	8,807	3,560	Y	Y	Y	Y	32	M, T, W, F	7.30-9.00	N	Y	1.40	---
Northbridge	8,807	3,560	Y	Y	Y	Y	32	M, T, W, F	7.30-9.00	N	Y	1.40	---
Norwood	8,014	2,555	Y	Y	Y	Y	70	M, T, W, Th	7.30-9.00	Y	Y	3.00	169
Norwood	8,014	2,555	Y	Y	Y	Y	70	M, T, W, Th	7.30-9.00	Y	Y	3.00	169
Palmer	8,610	3,074	Y	Y	Y	Y	24	M, W	7.00-9.00	N	N	1.50	---
Peabody	15,721	5,341	Y	Y	Y	Y	51	M, W, F	7.30-9.30	N	N	1.00	---
Pittsfield	32,121	6,744	Y	Y	Y	Y	49	M, W, F	7.30-9.30	N	N	2.00	---
Plymouth	12,141	3,722	Y	Y	Y	Y	49	M, W, F	7.30-9.30	N	N	5.00	---
Plymouth	12,141	3,722	Y	Y	Y	Y	49	M, W, F	7.30-9.30	N	N	5.00	---

Per year. 3 Per hour or period.

TABLE 6.—*Statistics relating to evening schools, 1914-15—Continued.*

[NOTE.—Y indicates Yes; N indicates No; indicate No data.]

Cities and towns.	Census of 1910.		Evening schools.			Num-ber of ses-sions.	Sessions.		Fees.	Depos-its.	Salaries (per evening unless otherwise indicated).		Enroll-ment of foreign pupils.
	Popula-tion.	Foreign-born whites.	Public.	Public, with classes for foreign-ers.	Private, with classes for foreign-ers.		Evenings of week.	Hours.			Teachers.	Principals.	
1	2	3	4	5	6	7	8	9	10	11	12	13	14
MASSACHUSETTS—continued.													
Quincy.....	32,642	10,875	Y	Y	.....	80	M, W, F	7.00-9.00	N	¹ Y	\$2.00	\$3.00	634
Revere.....	18,219	5,331	Y	Y	.....	40	M, T, Th	7.30-9.30	N	Y	2.00	2.50	106
Rockland.....	6,928	1,110	N	N	Y	42	M, W, F	7.00-9.00	N	.....	0	.....	42
Salem.....	43,697	13,539	Y	Y	Y	55	M, T, W, Th	7.30-9.00	¹ Y	Y	1.25	2.50	500
Shirley.....	2,139	.....	Y	Y	.....	40	M, T, W, Th	7.00-8.30	N	.....	² 1.00	.....	25
Somerville.....	77,236	20,751	Y	Y	.....	77	M, T, Th, F	7.30-9.30	N	N	1.50-2.00	4.00-5.00	500
Southbridge.....	12,592	4,315	Y	Y	.....	30	M, T, W, Th	7.00-8.30	N	N	1.00	1.50	313
Springfield.....	88,926	22,999	Y	Y	.....	67	M, W, Th	7.00-9.00	¹ Y	Y	1.50-2.00	3.50	1,653
Stoneham.....	7,090	1,362	Y	Y	.....	60	M, W, F	7.30-9.30	N	Y	2.00	3.00	30
Stoughton.....	6,316	1,439	Y	Y	.....	36	M, W, F	7.00-9.00	N	Y	2.00	2.00	76
Swampscott.....	6,204	1,369	N	N	Y	.....	.....	.....	.....	.....	.....	.....	.....
Taunton.....	34,259	9,779	Y	Y	.....	48	M, T, W	7.30-9.30	N	Y	1.50-1.75	3.00	515
Wakefield.....	11,404	3,128	Y	Y	.....	60	M, T, Th	7.30-9.00	N	¹ Y	1.50	3.00	119
Waltham.....	27,834	7,083	Y	Y	.....	59	M, W, F	7.15-9.15	N	¹ Y	2.50	4.00	250
Ware.....	8,774	3,223	Y	Y	.....	65	M, T, Th	7.00-9.00	N	.....	1.50-2.50	2.50	180
Watertown.....	12,875	4,057	Y	Y	.....	57	M, W, Th	7.30-9.00	N	¹ Y	1.50-2.50	4.00	151
Webster.....	11,509	4,096	Y	Y	.....	100	M, T, W, Th	7.00-9.00	N	.....	2.00	3.00	100
Wellesley.....	5,413	1,559	Y	Y	.....	60	M, W, F	7.30-9.00	N	.....	2.00	2.00	81
Westfield.....	16,044	4,401	Y	Y	.....	42	M, W, F	7.15-9.15	N	.....	³ 5.00	2.00-2.50	340
West Springfield.....	9,224	2,100	Y	Y	.....	61	M, T, W, Th	7.00-9.00	N	¹ Y	1.50	2.00	91
Whitman.....	7,292	1,108	Y	Y	.....	30	M, T, W	7.30-9.30	N	Y	.....	.....	.....
Winchester.....	9,300	2,486	Y	Y	.....	50	M, T, Th	7.30-9.00	N	.....	1.50	2.50	164
Winthrop.....	10,132	2,033	Y	Y	.....	46	M, W, Th	7.30-9.30	N	N	2.50	4.00	46
Woburn.....	15,308	4,039	Y	Y	.....	35	M, W, F	7.30-9.30	N	N	1.50	2.00	131
Worcester.....	145,986	48,492	Y	Y	.....	108	M, T, W, Th, F	7.15-9.15	N	Y	1.00-1.50	.....	1,911
MICHIGAN.													
Albion.....	5,833	775	Y	Y	.....	.....	M, T, W, F	7.00-9.00	N	.....	2.50	.....	.....
Alpena.....	12,706	3,586	Y	Y	.....	51	M, W, F	7.00-9.00	Y	.....	³ 4.00	.....	.....

Battle Creek.....	25,267	2,616	Y	Y	M, W, T, Th	7.30-9.00	N	Y	1.50	75
Bay City.....	45,166	11,027	Y	Y	M, T, W, Th, F	7.00-9.00	N	N	2.00	12
Calumet.....	32,845		Y	Y	M, T, W, Th, F	7.30-9.30	N	N	2.00	125
Detroit.....	405,766	156,565	Y	Y	M, T, W, Th	7.00-9.00	Y	Y	2.00-2.50	4,500
Flint.....	38,550	6,662	Y	Y	M, T, W, Th	7.00-9.00	N	Y	1.00	50
Grand Rapids.....	112,571	28,335	Y	Y	M, T, W, F	7.30-9.30	N	Y	2.00	843
Ironwood.....	12,821	6,234	Y	Y	M, T, W, F	7.30-9.00	N	Y	1.50	104
Jackson.....	31,433	4,507	Y	Y	M, T, W, Th	7.15-9.15	N	Y	2.00	60
Kalamazoo.....	39,437	6,857	Y	Y	M, T, W, Th	7.30-9.00	N	Y	2.00	50
Laings.....	31,229	3,973	Y	Y	M, W, T, Th	7.15-9.15	N	Y	1.00-2.50	60
McMillan Township (Newberry)	458		Y	Y	M, T, W, Th	8.00-10.00	Y	Y		41
Munising.....	2,952	1,048	Y	Y	M, T, W, Th	7.00-9.00	Y	Y	2.50	80
Muskegon.....	24,062	6,252	Y	Y	M, W, F	7.15-9.15	N	Y	1.50-2.50	210
Port Huron.....	18,863	5,979	Y	Y	M, W, Th	7.00-9.00	N		1.50	6
Saginaw:										
East side.....	50,510	11,701	Y	Y	M, W	7.00-9.00	N	Y	2.00	17
West side.....			Y	Y	M	7.00-9.00	N		1.50-2.00	85
Traverse City.....	12,115	2,009	Y	Y		7.00-9.00	N		1.00	35
MINNESOTA.										
Chisholm.....	7,684	4,469	Y	Y	T, W, Th	7.15-9.15	N	Y	1.00	5
Duluth.....	78,466	30,622	Y	Y	M, T, W	4-6, 7-9	N	Y	4.75	71
East Grand Forks.....	2,533	773	Y	Y	T, W, Th	7.30-9.30	Y		4.00	223
Ely.....	3,572	1,713	Y	Y						
Evaleth.....	7,036	3,761	Y	Y						
Fardbank.....	9,001	1,443	Y	Y						
Gilbert.....	1,700		Y	Y	M, T, W, Th	7.30-9.00	N		4.00	325
Hibbing.....	8,832	4,342	Y	Y	M, W, F	7.30-9.30	N		4.00	684
Hibbing.....	301,408	85,988	Y	Y	M, T, W	7.30-9.30	N	Y	2.50	2,856
Minneapolis.....	214,744	56,544	Y	Y	M, T, W, F	7.30-9.30	N	N	2.25	400
St. Paul.....	10,473	5,340	Y	Y	M, T, W, Th, F	7.30-9.30	N	N	4.00	900
Virginia.....										
MISSISSIPPI.										
Greenville.....	9,610	296	Y	Y						6
MISSOURI.										
Hannibal.....	18,341	774	Y	N	T, Th	7.30-9.30	Y	N	1.00	
Kansas City.....	248,381	25,327	Y	Y	M, T, Th	7.30-9.30	N	Y	3.00	240
Kirksville.....	6,347	135	Y	N	M, T, W, Th, F	6.30-9.30	Y		4.00	
Poplar Bluff.....	6,916	132	Y	Y						
St. Joseph.....	77,403	8,113	N	N	M, T, W, Th, F	7.00-9.30	Y			65
St. Louis.....	687,029	125,706	Y	Y	M, W, Th-M, W, F	7.00-9.00	N		2.75	1,963
NEBRASKA.										
Hastings.....	9,338	1,439	Y	Y	M, T, W, Th	7.30-9.00	N	Y	6.25.00	779
Lincoln.....	43,973	7,200	Y	Y	M, T, W, Th	7.30-9.30	N	Y	6.50.00	1,238
Omaha.....	124,096	27,068	Y	Y						

¹ For certain pupils.

² And expenses.

3 Per week.

⁴ Per hour or period.

⁶ High school has Thursday in addition.

⁶ Per month.

TABLE 6.—Statistics relating to evening schools, 1914-15—Continued.

[NOTE.—Y indicates Yes; N indicates No; indicate No data.]

Cities and towns.	Census of 1910.		Evening schools.			Sessions.			Fees.	Depos-its.	Salaries (per evening unless otherwise indicated).		Enroll-ment of foreign Pupils.
	Popula-tion.	Foreign-born whites.	Public.	Public, with classes for foreigners.	Private, with classes for foreigners.	Num-ber of ses-sions.	Hours.				Teachers.	Principals.	
							Evenings of week.						
1	2	3	4	5	6	7	8	9	10	11	12	13	14
NEW HAMPSHIRE.													
Claremont.....	7,529	1,819	Y	Y	.....	34	M, T, W, Th	7.15-8.45	N	.....	\$0.75	\$1.25	.....
Concord.....	21,497	4,309	Y	Y	.....	50	M, T, W, Th	7.30-9.00	.....	N	2.00	3.00	105
Dover.....	13,247	3,296	Y	Y	.....	84	M, T, Th, F	7.00-9.00	.....	Y	1.50	2.00	165
Manchester.....	70,063	29,692	Y	Y	.....	82	M, T, W, F	7.30-9.00	.....	Y	1.00	2.00	702
Nashua.....	26,005	8,957	Y	Y	.....	72	M, T, Th, F	7.00-9.00	.....	Y	1.50	2.50	.....
Portsmouth.....	11,269	2,138	N	.....	Y	.....	.....	.....	N	.....	.....	.....	.....
NEW JERSEY.													
Atlantic City.....	46,150	6,400	Y	Y	.....	74	M, T, W, Th	7.15-9.15	N	.....	2.50	3.00-4.00	.....
Bayonne.....	55,545	20,522	Y	Y	.....	68	M, T, W, Th	7.00-9.00	N	Y	2.00	3.00	.....
Bloomfield.....	15,070	3,359	Y	Y	.....	64	M, T, W, Th	7.30-9.30	N	1 Y	2.50	3.25	85
Bordentown.....	4,250	349	Y	Y	.....	64	M, T, W, Th	7.00-9.00	N	Y	2 80.00	0	24
Bridgeton.....	14,209	691	Y	Y	.....	.....	M, T, W, Th	7.30-9.30	N	.....	.....	.....	.....
Camden.....	94,538	15,682	Y	Y	.....	.....	.....	.....	.....	.....	.....	.....	.....
Elizabeth.....	73,409	23,894	Y	Y	.....	65	M, T, W Th	7.15-9.15	N	Y	2.50	4.00	676
Englewood.....	9,924	2,500	Y	Y	.....	64	M, T, Th	7.30-9.30	N	1 Y	3.00	.....	122
Garfield.....	10,213	5,365	Y	Y	.....	.....	.....	8.00-10.00	.....	.....	.....	.....	.....
Garwood.....	1,118	.....	Y	Y	.....	64	M, T, W, Th	7.30-9.30	N	Y	2.00	3.00	70
Hackensack.....	14,050	3,255	Y	Y	.....	64	M, T, W, Th	7.30-9.30	N	.....	3.00	4.00	125
Haddonfield.....	4,142	262	Y	N	.....	64	M, T, W, Th	7.00-9.00	N	.....	.....	.....	.....
Hammondton.....	5,088	1,548	Y	Y	.....	.....	.....	.....	.....	.....	.....	.....	.....
Hoboken.....	70,324	27,668	Y	Y	.....	64	M, T, Th, F	7.30-9.30	N	Y	3.00-4.00	6.00	917
Irvington.....	11,877	2,480	Y	N	.....	.....	.....	.....	N	.....	.....	.....	.....
Jersey City.....	267,779	77,697	Y	Y	.....	3 72	M, T, Th, F	7.30-9.30	N	Y	2.00	4.00	1,199
Kearney.....	18,659	6,024	Y	Y	.....	64	M, T, W, Th	7.30-9.30	N	.....	2.50	.....	58
Linden.....	610	.....	Y	Y	.....	64	M, T, Th, F	7.30-9.30	N	.....	2.50	.....	43
Long Branch.....	13,298	2,529	Y	Y	.....	64	M, T, W, Th	7.30-9.30	N	1 Y	2.50	3.50	93
Montclair.....	21,550	5,141	Y	Y	.....	69	M, T, W, Th	7.30-9.30	N	Y	2.50	3.00	236

TABLE 6.—*Statistics relating to evening schools, 1914-15—Continued.*

[NOTE.—Y indicates Yes; N indicates No; indicate No data.]

Cities and towns.	Census of 1910.		Evening schools.			Sessions.			Fees.	Depos-its.	Salaries (per evening unless otherwise indicated).		Enroll-ment of foreign pupils.
	Popula-tion.	Foreign-born whites.	Public.	Public, with classes for for- eigners.	Private, with classes for for- eigners.	Num-ber of ses- sions.	Evenings of week.	Hours.			Teachers.	Principals.	
1	2	3,	4	5	6	7	8	9	10	11	12	13	14
NEW YORK—continued.													
Newburgh.....	27, 805	4, 823	Y	Y	.....	48	M, W, F	7.30-9.30	N	.....	\$2.00	1 \$50.00	80
New Rochelle.....	28, 867	8, 677	Y	Y	.....	70	M, T, W, Th	7.30-9.30	N	.....	3.00-3.50	3.50-4.00	353
New York.....	4, 766, 883	1, 927, 703	Y	Y	.....	2 90	M, T, W, Th	{ 7.15-9.15 8.00-10.00 }	N	.....	3.00	5.00	36, 923
Niagara Falls.....	30, 444	12, 064	Y	Y	.....	44	M, T, Th, F	7.30-9.30	N	.....	1.50-2.00	2.50	100
North Tonawanda.....	11, 955	3, 628	Y	Y	.....	39	M, T, W	7.30-9.30	Y	.....	2.00	2.25	71
Olean.....	14, 743	2, 424	Y	Y	.....	46	M, W, F	7.30-9.30	Y	.....	2.00	2.00	151
Peekskill.....	15, 245	2, 305	Y	Y	.....	20	M, T, W, Th	7.30-9.30	Y	.....	0	0	15
Poughkeepsie.....	27, 936	4, 534	Y	Y	.....	85	M, T, W, Th	7.30-9.30	N	.....	1.50	2.00	167
Rochester.....	218, 149	58, 993	Y	Y	.....	72	M, T, Th	7.30-9.15	N	.....	2.00-2.50	4.00-5.00	2, 320
Rockville Center.....	3, 667	420	Y	Y	.....	60	M, T, Th	7.30-9.00	N	.....	1.25	.....	70
Rome 4.....	20, 497	4, 114	Y	N	Y	50	M, T, Th	7.30-9.00	Y	.....	.....	.....	302
Schenectady.....	72, 826	18, 631	Y	Y	.....	72	M, T, W, Th	{ 7.00-9.30 7.30-9.30 }	N	.....	2.00	3.00	406
Solvay.....	5, 139	1, 663	Y	Y	.....	51	M, T, Th	7.00-9.00	Y	.....	2.00	3.00	80
Syracuse.....	137, 249	30, 781	Y	Y	.....	80	M, T, W, Th	7.15-8.45	Y	.....	2.00	2.50	1, 278
Troy.....	76, 813	15, 432	Y	Y	.....	66	M, T, W	7.00-9.00	N	.....	3.00	5.00	2, 50
Utica.....	74, 419	21, 308	Y	Y	.....	.....	M, T, W	7.30-9.00	N	.....	2.00	3.00	.....
Watertown.....	26, 730	6, 268	Y	Y	.....	40	M, T, W, Th	7.00-9.00	N	.....	1.25	.....	50
White Plains.....	15, 949	3, 898	Y	Y	.....	53	M, T, W, Th	7.30-9.00	Y	.....	6 1.00	1 200.00	76
Yonkers.....	79, 803	26, 590	Y	Y	.....	82	M, T, W, Th	7.30-9.30	N	.....	3.00-3.50	.....	550
NORTH CAROLINA.													
Charlotte.....	34, 014	472	8 Y	N	.....	48-76	M, T, W, Th	{ 7.30-9.00 8.00-9.30 }	Y	.....	.....	.....	.....
Concord.....	8, 715	21	Y	N	.....	20	T, F	7.30-9.00	N	.....	0	0	.....
Durham.....	18, 241	228	Y	N	.....	100	M, T, W, Th	7.30-9.00	N	.....	.....	.....	.....
Raleigh.....	19, 218	151	Y	N	.....	48	M, W, F	7.30-10.30	Y	.....	.....	.....	.....
Salisbury.....	7, 153	72	8 Y	N	.....	16	M, W, F	7.00-9.00	N	.....	0	0	.....

STATISTICS RELATING TO EVENING SCHOOLS.

[illegible]

1 Per month.
2 High and trade schools, 120.
3 Rome leaves all work with foreigners to the Y. M. C. A. These data refer to the work of that organization.
4 Per year.
5 School conducted jointly by board of education and private organizations.
6 Per hour or period.
7 Largely volunteer.
8 Per week.
9 Opens any time between 7 and 8 and continues two hours.
10 For certain pupils.

² High and trade schools, 120. These data refer to the work of that organization. The Y. M. C. A. School conducted jointly by board of education and private organizations.

³ Opens any time bet
⁵ For certain pupils.
⁷ Largely volunteer.

⁶ Per hour or period.
¹⁰ Per week.

70 hours.

TABLE 6.—*Statistics relating to evening schools, 1914-15—Continued.*

(NOTE.—Y indicates Yes; N indicates No; indicate No data.)

Cities and towns.	Census of 1910.		Evening schools.			Sessions.			Fees.	Depos- its.	Salaries (per evening unless otherwise indicated).		Enroll- ment of foreign pupils.
	Popula- tion.	Foreign- born whites.	Public.	Public, with classes for for- eigners.	Private, with classes for for- eigners.	Num- ber of ses- sions.	Evenings of week.	Hours.			Teachers.	Principals.	
1	2	3	4	5	6	7	8	9	10	11	12	13	14
PENNSYLVANIA—continued.													
Butler.....	20,728	3,510	N	N	Y	.....	.....	.....	.....	.....	.....	.....	.....
Carbondale.....	17,040	2,997	Y	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Chambersburg.....	11,800	1,172	Y	N	.....	48	M, Th	7.00-9.30	N	.....	\$2.00	.....	.....
Chester.....	35,538	6,673	Y	Y	.....	96	M, T, W, Th, F	7.30-9.30	N	.....	2.00	\$2.50	.....
Coaldale.....	5,154	1,905	Y	Y	.....	120	M, T, W, Th, F	6.30-9.00	N	.....	1.45.00	1.125.00	65
Cokeburg.....	1,302	.....	Y	.....	Y	56	M, Th	7.00-9.00	N	.....	2.00	3.00	82
Columbia.....	11,454	657	Y	N	.....	20	M, T, W, Th, F	7.30-9.30	N	.....	.....	.....	.....
Connellsville.....	12,845	1,587	Y	Y	.....	84	T, W, F	7.30-9.30	Y	.....	2.00	.....	92
Donora.....	8,174	3,213	Y	N	.....	.....	.....	.....	.....	.....	.....	.....	.....
DuBois.....	12,623	2,122	Y	N	.....	.....	.....	.....	.....	.....	.....	.....	.....
Duquesne.....	15,727	6,381	Y	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Duryea.....	7,487	3,006	Y	Y	.....	80	M, T, W, Th, F	7.00-9.00	N	.....	1.25.00	0	134
East.....	28,523	3,122	Y	Y	.....	112	M, T, W, Th, F	7.30-9.30	N	.....	2.1.00	2.1.25	65
East Pittsburgh.....	5,615	1,663	N	Y	.....	106	M, W, F	6.30-9.00	Y	.....	1.15.00-45.00	.....	.....
Edwardsville.....	8,407	3,538	Y	N	.....	60	M, W, F	7.30-9.30	N	.....	1.50	2.00	323
Erie.....	66,525	14,943	Y	Y	.....	72	M, W, F	7.30-9.30	N	.....	.....	.....	108
Ford City.....	4,850	2,314	Y	Y	.....	.....	.....	.....	.....	.....	.....	.....	.....
Grove City.....	3,674	134	Y	N	.....	.....	.....	.....	.....	.....	.....	.....	.....
Harrisburg.....	64,186	4,134	Y	Y	.....	96	M, T, W, Th, F	7.30-9.30	N	.....	2.00	.....	40
Hazleton.....	25,452	5,994	Y	Y	.....	90	M, T, W, Th, F	7.15-9.15	N	.....	1.50	1.250.00	148
Homestead.....	18,713	7,068	N	Y	.....	124	M, T, W, Th, F	7.30-9.30	Y	.....	2.50	.....	55
Jeanette.....	8,077	1,774	Y	Y	.....	80	M, W, F	7.00-9.00	N	.....	2.00	.....	100
Johnstown.....	55,482	15,316	Y	Y	.....	52	M, W, F	7.30-9.30	N	.....	2.1.00	2.1.50	198
Kingston.....	1,884	.....	Y	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Lancaster.....	47,227	3,203	Y	Y	.....	80	M, T, Th	7.15-9.15	N	.....	2.00	.....	26
Lansford.....	8,323	3,154	N	N	Y	50	T, Th	7.00-9.00	N	.....	.....	.....	.....
Luzerne.....	5,426	1,750	Y	Y	.....	.....	.....	.....	.....	.....	.....	.....	.....
Mount Carmel.....	17,532	4,927	Y	Y	.....	80	M, Th, F	7.00-9.00	N	.....	2.1.00	.....	.....
Munhall.....	5,185	1,705	N	Y	.....	.....	.....	.....	.....	.....	.....	.....	.....
Nanticoke.....	18,877	7,187	Y	Y	.....	80	M, W, F	7.00-9.00	N	.....	2.00	.....	.....

	36,280	8,620	Y	Y	Y	72	M, T, Th	7.30-9.30 7.00-9.00	N	Y	2.00	2.50	450
New Castle.....	7,707	2,376	Y	Y	Y	Y							
New Kensington.....	27,875	4,015	Y	Y	Y								
Norritown.....	11,824	3,365	Y	Y	Y								
North Braddock.....	382,578	382,578	Y	Y	Y	72	M, T, W	7.30-9.30	N	Y	2.00	3.33	9,087
Philadelphia.....	1,549,008	533,905	Y	Y	Y	60	(C) M, T, W, Th	7.30-9.30	N	Y	2.50-4.00	4.00-7.00	4,977
Pittsburgh.....	96,071	8,812	Y	Y	Y	100	M, T, W, Th	7.30-9.30	N	N	1.50	2.00	213
Reading.....	5,408	1,145	N	N	N	24		7.30-9.00	Y		2 1.00		6
Ridgway.....	6,346	780	Y	Y	Y								
St. Marys.....	6,426	516	Y	Y	Y	42	M, W, F	7.15-9.15		Y	1.50		110
Savoy.....	129,867	35,112	Y	Y	Y	80	M, T, W, Th	7.30-9.30	Y	N	2.00	2.50	177
Scranton.....	19,588	2,788	Y	Y	Y	70	M, W, F	6.00-9.00	N	Y	1.50		80
Shamokin.....	4,592	1,127	Y	Y	Y								
South Fork.....	9,060	3,369	Y	Y	Y								
Taylor.....	5,133	2,361	Y	Y	Y	80	M, T, W, Th, F	7.00-9.00	N	N	1.30.00		
Throop.....	8,533	1,554	Y	Y	Y	115	M, T, W, Th, F	7.30-9.30	N	N			
Titusville.....	7,176	221	Y	Y	N	20	M, F	7.30-9.00	Y	N	2.00		
Tyrone.....	13,344	1,447	Y	Y	Y								
Uniontown.....	67,105	16,078	Y	Y	Y	99	M, T, W, Th, F	7.00-9.00		Y	1.50		9
Wilkes-Barre.....	18,924	1,971	Y	Y	Y	40	M, T, Th	7.15-9.15	N	Y	2 1.50		172
Wilkes-Barre.....	6,133	2,112	Y	Y	Y		M, Th-T, F	7.30-9.30			1.00	1.00	
Wilmerding.....													
RHODE ISLAND.													
Burrillville.....	7,878	2,454	Y	Y	Y	56	M, W, F	7.30-9.00	N		1.00	2.00	
Central Falls.....	22,754	10,664	Y	Y	Y								
Coventry.....	5,848	1,346	Y	Y	Y			6.45-8.45	N		1.00	2.00	
Johnston.....	5,985	2,313	4 Y	Y	Y	78-96	M, T, Th, F	7.00-9.00	N	Y			15
Lincoln.....	3,825	4,181	Y	Y	Y	48-49	M, T, Th-M, W, F	7.00-9.00	5 Y	Y	1.00-1.25		45
Newport.....	27,149	6,256	Y	Y	Y	59	M, W, F	7.30-9.30	N	Y	2.00-3.00	3.00	
North Providence.....	5,407	2,515	4 Y	Y	Y								
Pascoag.....	51,622	17,956	Y	Y	Y	55	M, W, F	7.30-9.00	N		1.00	2.00	204
Pawtucket.....	224,326	76,303	Y	Y	Y	61	M, W, F	7.30-9.00	5 Y	Y	1.33	3.00	148
Providence.....			Y	Y	Y	79-169	M, T, W, Th, F	7.30-9.30	N		2.00	4.00	
Y. M. C. A.....			Y	Y	Y	58	M, Th-T, F	7.30-9.00	N		2.75		400
Warren.....	6,585	2,393	Y	Y	Y	60	M, W, F	7.30-9.00	N	Y	1.00	2.00	
Westerly.....	8,696	2,347	Y	Y	Y	54	T, W, Th	7.30-9.00	N	Y	1.50	2.00	131
Woonsocket.....	38,125	16,539	Y	Y	Y	60	M, T, W, Th	7.15-9.15	N	Y	1.00	2.00	314
SOUTH CAROLINA.													
Anderson.....	9,654	73	Y	Y	Y	80	M, T, Th, F	7.00-9.00	N				
Charleston.....	58,833	2,404	Y	Y	Y								
Columbia.....	26,319	446	Y	Y	Y	105	M, T, Th	7.00-8.30	N				5
Greenwood.....	6,614	33	Y	Y	Y								
Newberry.....	5,028	26	Y	Y	Y								
Rockhill.....	7,216	40	Y	Y	Y								
Spartanburg.....	17,517	143	Y	Y	Y	42	M, W, F	7.30-9.30	N				
Union.....	5,623	38	Y	Y	Y								

1 Per month.

2 Per hour or period.

3 Three evenings.

4 Pupils attend Providence evening schools.

5 For certain pupils.

TABLE 6.—*Statistics relating to evening schools, 1914-15—Continued.*

[NOTE.—Y indicates Yes; N indicates No; indicate No data.]

Cities and towns.	Census of 1910.		Evening schools.			Sessions.		Fees.	Deposits.	Salaries (per evening unless otherwise indicated).		Enrollment of foreign pupils.
	Population.	Foreign-born whites.	Public.	Public, with classes for foreigners.	Private, with classes for foreigners.	Number of sessions.	Evenings of week.	Hours.		Teachers.	Principals.	
I	2	3	4	5	6	7	8	9	10	12	13	14
TENNESSEE.												
Bristol.....	7,148	71	Y									
Memphis.....	131,105	6,467	Y									
Nashville.....	110,364	2,993	Y	N		92	M, T, W, Th	7.00-9.00				
TEXAS.												
Austin.....	29,860	2,441	Y									
Galveston.....	36,981	6,164	Y									
Houston.....	78,800	6,318	Y	N		72	M, W, F	7.15-9.15	N			
San Antonio.....	96,614	17,407	Y	Y		82	M, W, F	7.15-9.15	N	\$2.00	\$3.00	131
										2.25		223
UTAH.												
Ogden.....	25,580	4,454	Y	Y		100	M, T, W, Th, F	7.00-10.00	N	11.00		300
Provo.....	8,925	1,227	Y	N		28	Th	7.00-9.00	N			
Salt Lake City.....	92,777	19,035	Y	Y		71		7.00-9.00	N	25.00		56
VERMONT.												
Barre.....	10,734	4,106	Y	N								
Burlington.....	20,468	3,938	Y	Y		56	M, W, Th	7.30-9.30	Y	34.50		
Montpelier.....	7,856	1,449	N	N		20	Th	7.00-9.00	Y	1.00		10
Proctor.....	2,871	1,340	N	N		40	M, T-Th, F	7.00-8.00	Y	8.66		22
VIRGINIA.												
Newport News.....	20,205	1,650	Y	N		68	M, Th	7.30-9.30	N	20.00	25.00	
Norfolk.....	67,452	3,564	N	N								
Portsmouth.....	33,190	1,115	Y	N		72	M, T, Th	7.00-9.00	N			
Richmond.....	127,628	4,085	Y	Y		72	M, T, Th	7.30-9.30	N	30.00	35.00	42

WASHINGTON.

Bellingham.....	24,298	5,152	Y	Y	37	M, W, F	7.30-9.30	N		2.40	3.50	146
Everett.....	24,814	5,472	N	Y								
North Yakima.....	2,027	1,556	Y	Y	48	T, Th, F	7.00-9.00	Y	Y	2.00	2.25.00	125
Roslyn.....	3,126	60,835	Y	Y	67	M, W, F	7.15-9.15	4 Y	Y	2.50		
Seattle.....	237,194	21,220	Y	Y	72	M, W, Th	7.00-9.00	4 Y	Y	2.50	4.00	707
Spokane.....	104,402	21,463	Y	Y	69	M, W, F	7.30-9.30	4 Y	Y	2.50	4.00	737
Tacoma.....	21,863	2,361	Y	Y	30	M, W, F	7.30-9.30	N	Y	1.50		23
Walla Walla.....	19,364		Y									

WEST VIRGINIA.

Charleston.....	22,996	1,014	Y	Y		M, T, Th	7.00-9.00	Y				
Morgantown.....	9,150	1,113	Y	N	60	M, W, F	7.00-9.00		Y	1.50	1.75	
Parkersburg.....	17,842	560	Y	N	58							
Wheeling.....	41,641	5,418	Y	N	60	M, W, F	{ 7.30-9.00 7.30-9.30 }	N		2.00	3.00	

WISCONSIN.

Appleton.....	16,773	3,257	Y	Y	48	M, W	7.30-9.30		Y	1.00		22
Beloit.....	15,125	2,395	Y	Y	40	T, Th	7.30-9.30	4 Y	Y	2.00		100
Cudahy.....	3,691	1,684	Y	Y		M, F	7.30-9.30		Y	3.20		60
Fond du Lac.....	18,797	3,062	Y	Y	51	T, Th	7.30-9.30		Y	2.00-3.00		89
Janesville.....	13,894	1,997	Y	Y								
Kenosha.....	21,371	7,642	Y	Y	48	T, Th	7.00-9.00	N	Y	1.00		487
La Crosse.....	30,417	6,043	Y	Y	90	T, Th	7.30-9.30	N		2.00		49
Madison.....	25,531	4,174	Y	Y	72	M, W, F	7.30-9.30	N	Y	2.50-3.00	3.00	131
Manitowoc.....	13,027	2,534	Y	Y	44	M, Th	7.20-9.20	N	Y	2.00		18
Marshfield.....	5,783	1,095	Y	N	30	T, Th	7.30-9.30	Y	N	1.00	2.00.00	
Menasha.....	6,081	1,420	Y	Y	111	M, W, F	7.15-9.15	N	Y	1.00	1.25	14
Menomonee.....	5,636	1,258	Y	Y	60	M, T, Th	7.30-9.30		Y	3.00		
Milwaukee.....	373,857	111,456	Y	Y	69	M, W, F	7.00-9.15		Y	2.50	3.00-6.00	6,777
Neeah.....	5,734		Y									
Oshkosh.....	33,062	7,406	Y	Y								
Racine.....	38,002	12,509	Y	Y	63	M, W, F	7.30-9.30	Y		2.00		568
Sheboygan.....	26,398	8,667	Y	Y	47	T, Th	7.30-9.30	N	Y	1.00		359
Stevens Point.....	8,692	1,712	Y	Y					Y	1.00		11
Superior.....	40,384	13,772	Y	Y	96	M, W, Th	7.30-9.30	N	Y	2.00	3.00	390
Two Rivers.....	4,850	836	Y	Y	48	M, Th	7.15-9.15	N	Y	1.00		30
Wauchesa.....	8,829	1,949	Y	Y	32	M, Th	7.15-9.15	N	Y			4
Wausau.....	16,560	3,918	Y	Y		T, Th	7.00-9.00	N	4 Y	2.00		15
West Allis.....	6,645	2,420	Y	Y	60	M, W, F	7.15-9.15	N	Y	3.00	3.00	105

1 Per hour or period.

2 Per month.

3 Per week.

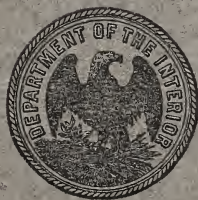
4 For certain pupils.

1
DEPARTMENT OF THE INTERIOR
BUREAU OF EDUCATION

BULLETIN, 1916, NO. 19

STATE
HIGHER EDUCATIONAL INSTITUTIONS
OF IOWA

A REPORT TO THE IOWA STATE BOARD OF EDUCATION
OF A SURVEY MADE UNDER THE DIRECTION OF
THE COMMISSIONER OF EDUCATION



WASHINGTON
GOVERNMENT PRINTING OFFICE
1916

ERRATA.

- P. 30. Change 68,000 in next to last line to 72,000; change 9,900 to 10,600.
43. Total expenditures, University of Iowa, should read \$1,017,805.72, instead of \$1, 017, 806.72.
44. Total expenditures, Iowa State College, should read \$1,462,684.25, instead of \$1,461,684.25.
45. Expenditures for extension and industrial service, State College, should read \$449,348.74, instead of \$449,348.79.
84. Line 5 should read, "Department of the Interior," instead of "Department of Agriculture."
139. Omit (*d*) under "Utilization of Buildings."
192. Same change as on p. 44.



DEPARTMENT OF THE INTERIOR
U.S. BUREAU OF EDUCATION
41

BULLETIN, 1916, NO. 19

STATE
HIGHER EDUCATIONAL INSTITUTIONS
OF IOWA

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WASHINGTON
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1916

L. M.
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LETTER OF TRANSMITTAL.

DEPARTMENT OF THE INTERIOR,

BUREAU OF EDUCATION,

Washington, August 21, 1916.

SIR: I am transmitting herewith for publication as a bulletin of the Bureau of Education the report of the survey of State higher educational institutions of Iowa, made under my direction for the Iowa State Board of Education by the following committee appointed by me for that purpose:

Dr. James R. Angell, dean of the faculties of liberal arts, literature, and science of the University of Chicago.

Dr. Kendric C. Babcock, dean of the college of arts and sciences of the University of Illinois.

Dr. Liberty H. Bailey, formerly director of the New York State College of Agriculture.

Dr. Hollis Godfrey, president of Drexel Institute, Philadelphia.

Dr. Raymond M. Hughes, president of Miami University.

Mrs. Henrietta W. Calvin, specialist in home economics, Bureau of Education.

Dr. Samuel P. Capen, specialist in higher education, Bureau of Education (chairman).

This report and the conclusions in the form of constructive recommendations were unanimously agreed upon by the members of the survey committee and approved by me.

The publication of this and reports of somewhat similar surveys made by this bureau should tend toward the establishment of more definite standards in the various fields of education and the formation of certain national policies which may gradually be adopted, always of course with necessary local modifications, throughout the country.

Respectfully submitted.

P. P. CLAXTON,

Commissioner.

The SECRETARY OF THE INTERIOR.

STATE HIGHER EDUCATIONAL INSTITUTIONS OF IOWA.

INTRODUCTION.

In the latter part of February, 1915, the Iowa State Board of Education requested the assistance of the United States Bureau of Education in the preparation of a budget for the three State higher institutions under the board's control. The invitation to the Commissioner of Education, in addition to rehearsing the recent history of the Iowa State institutions and suggesting the matters on which advice was desired, stated specifically:

That the State board of education has no desire to reopen the coordination question in the sense of combining the colleges of engineering and home economics as organized at the State University of Iowa and the Iowa State College of Agriculture and Mechanic Arts, or the abandonment of the college courses at the Iowa State Teachers College; but the Iowa State Board of Education would like to know whether it would be possible, without resorting to such radical action as mentioned above, to reduce duplications.

It was the board's expectation that the necessary examination of the institutions and study of their needs might be made during the academic year 1914-15.

The importance of the task, together with other engagements of the Commissioner of Education and his subordinates, made it seem unwise to undertake the enterprise within the period contemplated by the board. The Commissioner of Education was convinced that such an investigation should be made with due deliberation. He accordingly informed the board of his inability to assume the direction of it until the following autumn.

On May 15, 1915, a meeting of the board was held at Des Moines, which was attended by the Commissioner of Education and Dean K. C. Babcock, of the University of Illinois, special collaborator of the Bureau of Education. At this meeting formal sanction for the survey of the three State institutions was voted by the board and a memorandum furnished of the questions upon which information and counsel were especially desired. The following resolutions were passed:

Be it resolved, That the Iowa State Board of Education hereby requests Hon. P. P. Claxton, Commissioner of Education, to make a survey of the institutions of higher learning under this board, said survey to be made according to the plans suggested by the commissioner, who is hereby authorized to

employ such assistance as he deems necessary, the amount of compensation for such assistants to be agreed upon by the commissioner and the board; and

Be it further resolved, That the president of the Iowa State Board of Education and the finance committee be authorized to represent the board in all matters relating to the survey; and that the commissioner be requested to make a report of said survey, to the State board of education, not later than March 1st, 1916.

In its memorandum to the commissioner, the board requested that inquiry be made into the following matters:

1. The duplication in courses in education and psychology between the State university and the college of agriculture and mechanic arts.

2. The extent to which courses in liberal arts are offered at the Iowa State College of Agriculture and Mechanic Arts.

3. The advisability of giving courses in journalism at the State college of agriculture and mechanic arts and the desirability of establishing a school of journalism, with a recommendation as to its location.

4. The status of graduate work at each of the three State institutions, with the expression of an opinion by the investigators as to the possibilities of preventing duplication in this department.

5. The feasibility of consolidating the extension work of the three State-supported institutions.

6. The adequacy of the buildings, and the economy exercised in their use, at the State university, the State college of agriculture and mechanic arts, and the State teachers college. Specifically the opinion of the investigators was requested as to whether a general library and auditorium, or a botany and geology building, should be provided at the State university within the next biennium.

7. The best avenues of expansion of the State university and the State college of agriculture and mechanic arts, with special reference to the advisability of adding new colleges or departments to meet present or future educational needs of the State. The investigators were asked especially for a recommendation concerning the establishment of a college of commerce.

The Commissioner of Education believed that such an inquiry could best be undertaken by a group of persons whose training and experience would fit them to deal with general administrative problems in higher education in a constructive way, and who as individuals might respectively bring special knowledge to bear upon the definite questions raised in the board's memorandum. He therefore appointed, with the approval of the State board of education, the following persons to act as a survey commission:

Dr. James R. Angell, dean of the faculties of liberal arts, literature, and science of the University of Chicago.

Dr. Kendric C. Babcock, dean of the college of arts and sciences of the University of Illinois.

Dr. Liberty H. Bailey, formerly director of the New York State College of Agriculture.

Mrs. Henrietta W. Calvin, specialist in home economics, Bureau of Education.

Dr. Hollis Godfrey, president of Drexel Institute, Philadelphia (consulting member).

Dr. Raymond M. Hughes, president of Miami University.

Dr. Samuel P. Capen, specialist in higher education, Bureau of Education (chairman).

The commission was organized in July. During the latter part of the summer certain of its members devoted themselves to the study of the printed material bearing upon the Iowa situation. The Bureau of Education furnished summaries of various documents and statistical compilations, which were circulated among the members of the commission.

The commission met on the 6th of October in the office of the Commissioner of Education at Washington and outlined the plan of the survey. In addition to the questions raised by the board of education in the memorandum already mentioned, it was determined to study with some care certain phases of administrative efficiency, especially those relating to the amount of teaching carried by members of the faculty, the size of classes, the standards of admission and promotion in the three institutions and their enforcement, and the machinery of general administration. Sanction for this extension of the field of the inquiry was found in the statement presented by the board to the Commissioner of Education in connection with its original invitation to him (mentioned in the first paragraph of this introduction) to undertake the survey. As essential to a proper estimate of the present status and future development of the State-supported institutions, the commission decided to consider the whole field of higher education in Iowa. The several topics to be studied were apportioned to subcommittees of the commission, the appointments to these subcommittees being based upon what was felt to be the peculiar aptitude of each member of the commission developed through previous administrative or teaching experience.

Before proceeding to study the institutions on the ground, the commission issued through the Bureau of Education detailed inquiries to the presidents, registrars, deans, and directors of the departments having to do with the questions under investigation. The material thus collected was summarized in part at the Bureau of Education and in part at the offices of the members of the commission who are not connected with the bureau.

The Bureau of Education also prepared a letter of inquiry concerning the educational needs of the State, which, through the cooperation of the State board of education, was sent to presidents

of chambers of commerce, heads of granges, newspaper editors, superintendents of schools, and certain other citizens of distinction. One hundred and forty-one replies were received. The text of the letter follows:

DEPARTMENT OF THE INTERIOR,
BUREAU OF EDUCATION,
Washington, October 18, 1915.

MY DEAR SIR: At the request of the Iowa State Board of Education the United States Commissioner of Education has appointed a survey commission to make a report upon the conditions and needs of the three State-supported institutions of higher education in the State of Iowa.

It would be of great assistance to the commission to learn from representative citizens and from influential organizations the opinion of the State regarding the efficiency of organization and management of these institutions, the wisdom of their educational policies, the possible avenues of waste through unnecessary duplication, and the most profitable lines for their future development. I therefore take the liberty of asking you to address to me, for the benefit of the commission, a brief statement which will cover the following points:

1. In your judgment is each of the three higher institutions occupying fully and exclusively the sphere which properly belongs to it?

2. Are there general defects in policy or management of any one of the institutions which have prevented its proper development or disturbed the balance which would prevail between three State schools founded for three distinct purposes?

3. Do you think it desirable to maintain the State institutions of higher education on a sound and generous basis, providing from time to time for their physical expansion to keep pace with the increasing complexity of higher education and with the possible growth of the State?

4. Would you suggest any new activities, directly or indirectly, for the benefit of the people of the State which any one of the institutions should take up?

5. In your opinion what occupations and industries promise to be most important to Iowa in the near future? Is there already ample provision for training in these lines; or should the State-supported higher institutions give special attention to the development of training in some of them?

The commission desires the frankest expression of opinion on these subjects and on any others that you may care to discuss. Your communication will be regarded as strictly confidential.

May I urge you to reply in the inclosed penalty envelope not later than November 1st.

Sincerely, yours,

P. P. CLAXTON, *Commissioner*.

In issuing the letter the commission had two ends in view. First, it desired to ascertain the attitude of leading citizens of the State toward the State's higher institutions, to construct for itself the atmospheric setting of these institutions. Second, it wished to secure the opinion of those citizens of Iowa best informed and best qualified to speak concerning the probable future development of the State and the new or enlarged educational facilities which this development might demand. Both of these purposes were achieved. Most of the replies were conscientiously prepared. Taken together, they

have not only cast much light on the whole higher educational situation, but they have revealed in a striking way the spirit of the State. A few of the replies are truly notable documents.

The period from November 8th to November 19th was devoted by the commission to visiting the institutions. President Godfrey was represented in this part of the work by Mr. H. T. Murray, of Drexel Institute. The commission spent four days at Iowa City, two at Cedar Falls, and five at Ames. The procedure during these visits was in brief as follows:

After a preliminary view of the grounds and buildings the members of the commission separated and individually or in groups of two interviewed the principal officers of each institution, including as many heads of departments as possible. Certain of the members examined with care the educational and financial records and all documents relating to the use of buildings. At the State university and the State college of agriculture and mechanic arts it held hearings attended by the presidents, deans, and certain heads of departments in these institutions. At the State teachers college it held a hearing attended by the president and the head of the department of education, who is also the director of study-center work. A stenographic report of each of these hearings was made and a copy given to the president of the institution concerned.

On the 17th of November the commission had an audience with Gov. Clarke, discussing with him the more important features of the educational situation. Subsequently the members called upon Supt. Deyoe and obtained from him a statement of the relations between the department of public instruction and the administration of the higher institutions of the State.

On the 18th of November the commission met with the State board of education in Des Moines and discussed certain of its observations and the scope of its report. The members pointed out to the board that, in their opinion, the commission should be allowed to exceed the definite limits originally laid down and to take up in its report other matters than those mentioned in the memorandum presented to the Commissioner of Education in May. While this memorandum had served thus far as a guide for the commission's inquiries and deliberations, nevertheless other issues had constantly obtruded themselves upon the attention of the commission—issues which the members had come to believe were fundamental to the situation, and which should be taken into account, if the report were to have any value. The board was convinced by the discussion that, to render the best service, the commission should be free to treat any parts of the educational situation in Iowa that might be necessary.

In accordance with this understanding, the commission has ventured upon a general consideration of the question of duplication. It was felt that recommendations could not consistently be made regarding the prevention of duplication in certain specified lines, particularly in the field of graduate work, without account being taken, at the same time, of the whole extensive area of duplication. The effort has been to show that almost all cases of duplication are symptoms of the same organic defect, and that these symptoms can not be permanently remedied by a series of small, palliative measures, but only by action designed to remove the defect itself. Certain principles are proposed which it is believed will, if applied, achieve the desired result. The commission is desirous of having the fact distinctly understood, however, that this wider discussion is undertaken wholly on the commission's own initiative, and that the consent of the board to the embodiment of it in the report was obtained only after the commission's investigations were practically finished. This statement is made in order that the position of the board in the matter may not be misconstrued.

The commission has not attempted to go into past institutional difficulties or to investigate questions of legality. The members have considered it their duty to judge educational conditions as they found them, to determine the status of each institution as now developed, and to recommend policies and administrative readjustments which they believe to be right in principle, which have the sanction of practice in other progressive States, and which the commission thinks will solve Iowa's most vexed educational difficulties.

To restore and preserve peace between the State higher schools, to facilitate a harmonious evolution of the State's higher educational system and of each of its parts—these are the ends which the State itself seeks. They are the ends which the commission has held constantly in view. If the commission's advice seems to the board and to the people of Iowa worth adopting, and if it is found that existing laws interfere with such adoption, the remedy is to change the laws; but the commission offers no definite recommendations as to legislation.

On the 19th of November the commission disbanded in Des Moines, two of its members visiting before their return certain of the officials of privately supported higher institutions in the State and three high schools of different types. The composition of the report, to which each member contributed one or more sections, occupied the following eight weeks. A brief of the findings of fact upon which each of the sections of the report was based was sent to the officers of each of the institutions with the request that any inaccuracies of statement be corrected. The facts, therefore, upon which the final

report of the commission rests have been attested by the persons best qualified to speak concerning them. For the interpretation of these facts, which is its chief business, the commission takes entire responsibility.

The commission met in Washington January 3, 4, and 5, 1916, discussed the final form of the report, and decided upon certain minor revisions.¹ The separate contributions were then edited and combined in a single document by the Bureau of Education.

It will, of course, be apparent to any student of education that the survey does not cover all matters of interest and importance relating to the management of the State higher institutions. Departmental organization, for instance, receives very limited treatment. The only phase of student life touched upon is the housing of women students. No attempt was made to estimate the quality of classroom instruction or the professional equipment and standing of members of the three faculties. Indeed, there are a score of topics which would doubtless offer profitable fields for investigation which the commission did not consider. Some of these are mentioned later (see pp. 112, 124). Several others upon which the commission gathered extensive data are not included in this report. The contents of the report, and in a general way the commission's investigations, were determined by two considerations. The first of these was Iowa's complex administrative problem, the problem of organizing the component parts of its higher educational system so that they will work cooperatively, harmoniously, without mutual interference, and with the minimum of waste for the common welfare of the State. The second was the board's memorandum, which raised certain definite questions upon which advice was desired. The commission now reports on each of these questions, although it has thought best to discuss them in a different order from that suggested by the board.

The commission takes this opportunity to record its grateful recognition of the courtesy and cordiality with which it has everywhere been met. Not only the members of the board of education and the finance committee, but also all the officials with whom it came in contact at each of the three institutions have manifested an eagerness to cooperate and a keen desire to spare it trouble or delay. The burden imposed by some of the commission's inquiries has been heavier than would probably be guessed by those not familiar with educational investigations. The principal weight of it has fallen on the recording and reporting officers, yet these officers have in every case gathered the information requested promptly and cheerfully. The frank and friendly spirit in which all three faculties have re-

¹ It is worth recording that the commission has never had a divided vote. Every recommendation in the report has been carried unanimously.

ceived the commission has transformed what might have been an arduous though interesting task into a delightful experience upon which every member of the commission will look back with satisfaction.

On February 15 and 16 the chairman and two other members of the commission met the State board of education in Des Moines and submitted a preliminary draft of the report. The purpose of this conference was to determine whether there appeared in the report any errors in statement of fact concerning those matters of which the board has special knowledge. A few minor changes in the phrasing of portions of the report were made as the result of the meeting, but no changes in the substance of the recommendations. No recommendations were added and none were eliminated.

On February 23 the report was submitted to the Commissioner of Education. As the result of a conference between him and two members of the commission on February 26 one recommendation was slightly modified.

On February 28 the chairman and two members of the commission met with the presidents of the three institutions in Chicago and put before them the same preliminary draft of the report which had been presented to the State board of education. The purpose of this conference was similar to that of the meeting in Des Moines on the 15th and 16th of the month. The commission wished to be sure that no misstatements of fact remained through inadvertence in the document. During the course of the conference the presidents were informed of the changes in phraseology adopted as the result of the earlier conference. In all cases these changes met with their approval. The presidents in turn suggested certain other modifications not affecting the structure of the report, which the commission was ready to adopt. In addition, it appeared that certain minor recommendations relating to the provisions for physical training for women at the State teachers college were based upon an erroneous conception of the actual conditions. These, together with the discussion relating to them in the body of the report, were eliminated.

On March 17, after the changes mentioned had been reported to the other members of the commission and had received their approval, the manuscript of the report was turned over to the Bureau of Education for publication as a bulletin of the bureau. A synopsis of the report was also prepared and, simultaneously with the appearance in print of the full document, was sent to the Iowa State Board of Education for publication in the daily press.

Chapter I.

HIGHER EDUCATION IN IOWA, WITH INCIDENTAL REFERENCE TO PUBLIC SECONDARY EDUCATION.

BOARDS AND STATE AUTHORITIES.

Control of public higher and secondary education in Iowa is vested in several boards and officials, whose functions are prescribed by act of legislature. These are the State board of education, created in 1909, the finance committee of the State board of education, the State superintendent of public instruction, and the State board of educational examiners. The State superintendent of public instruction is authorized by law to appoint a State inspector of normal training in high schools and private and denominational schools and State inspectors of graded and high schools. The State board of education appoints the State inspector of secondary schools, and cooperates with the institutions under its control in the appointment of a board on secondary school relations.

THE STATE BOARD OF EDUCATION.

The State board of education consists of nine members appointed by the governor for terms of six years and serving without compensation, save for a small per diem to cover the expenses of travel. It is charged with the government of the State university, the college of agriculture and mechanic arts, the teachers college, and the school for the blind, and its powers extend to the appointment of all officers and employees of these institutions and the fixing of their salaries. It directs the expenditure of all State money appropriated to the institutions, and submits biennially to the legislature estimates of appropriations needed for their future support.

FINANCE COMMITTEE OF THE STATE BOARD OF EDUCATION.

The board is assisted in its management of the State higher institutions by a finance committee of three, appointed by the board itself from outside its membership, which performs the functions of an executive committee of the board. The powers and duties of the finance committee are only vaguely defined in the act authorizing its appointment. Its members receive a salary of \$3,500 a year each, and are expected to devote all their time to duties assigned them in connection with the higher institutions. They are required to visit each institution each month and familiarize themselves with its work. The secretary of the committee acts as secretary of the board.

THE INSPECTOR OF SECONDARY SCHOOLS.

Shortly after its creation in 1909, the State board of education established the office of inspector of secondary schools. This official continues under the direction of the board the practice carried on for some years previously by the university. He is charged with the duty of visiting such high schools in the State as desire to be accredited¹ by the State higher institutions, and passes upon their equipment and standards.

THE BOARD OF SECONDARY SCHOOL RELATIONS.

The inspector of secondary schools is chairman of the board on secondary-school relations, consisting, besides himself and his assistants, of a member of the faculty of each of the three State higher institutions appointed by the president of the institution and approved by the State board of education. The board on secondary-school relations considers and submits to the faculties of the three institutions recommendations on all matters respecting the standards to govern the accrediting of schools. These recommendations become operative when approved by the three faculty bodies.²

STATE SUPERINTENDENT OF PUBLIC INSTRUCTION.

The State superintendent of public instruction, who presides over the department of public instruction, is appointed by the governor for a term of four years and receives a salary of \$4,000. This official has general supervision and control over the rural, graded, and high schools of the State and over all other State and public schools, except those under the direction of the State board of education or the State board of control.³ Among his legally prescribed duties are the classification of the various public schools and the formulation of suitable courses of study for them. As it relates to the high schools, this classification is especially important, for on it depends the right of three types of schools to claim State or district subsidies. Children of rural sections which do not maintain high schools may attend high schools in neighboring districts, the home district paying their tuition at the rate of \$3.50 per month. To collect this tuition

¹ An accredited school is one whose standards and equipment have been approved by the agents of a higher institution (generally the State university) and whose graduates are accepted for entrance by that institution without examination.

² In 1909 the State board of education appointed a committee of 15, representing the faculties of the three State higher institutions, to agree upon a common basis for the relationship between the public high schools and the State institutions. Upon recommendation of this committee, uniform entrance requirements were adopted for similar courses at all three institutions, and it was agreed that no one of the institutions should change its entrance requirements without notice to the others.

³ This body has charge of the institutions for the defective, delinquent, and invalided.

for outside pupils, a high school must be approved by the State department of public instruction. State aid to the amount of \$750 per annum is granted to high schools which maintain courses for the training of rural teachers satisfactory to the State superintendent of public instruction. The same amount is also granted to consolidated schools offering courses in agriculture, domestic science, and manual training which are approved by the State superintendent of public instruction.

INSPECTORS OF THE STATE DEPARTMENT OF PUBLIC INSTRUCTION.

To assist him in determining the eligibility of these three classes of schools for approval and to aid in the general work of supervision, the State superintendent of public instruction appoints, under the law, an inspector of normal training in high schools and private and denominational schools, also one and not to exceed three inspectors of graded and high schools.

STATE BOARD OF EDUCATIONAL EXAMINERS.

The State board of educational examiners controls the certification of teachers. It is composed of the State superintendent of public instruction, who acts as chairman, the president of the university, the president of the State teachers' college, and two other persons appointed by the governor for terms of four years. The acts defining the powers and functions of this board specify in some detail the procedure to be followed in the issuance of different classes of teachers' certificates. The board is authorized to accept graduation from regular collegiate courses in the State higher institutions and other institutions within and without the State judged of equal rank, as evidence that a teacher possesses the scholarship and professional fitness for a State certificate. For a first-class certificate, however, collegiate courses amounting to 14 hours in education and 6 hours in psychology are required.

SECONDARY EDUCATION IN IOWA.

The population of Iowa was 2,231,853 in 1900, and 2,221,755 in 1914. In the interval it has risen slightly and dropped again. Reports made to the Bureau of Education showed that there were 51,828 pupils enrolled in public and private high schools and in the preparatory departments connected with higher institutions in 1914. This represents a gain of approximately 18,000 in 14 years, without any gain—indeed in the face of a slight loss—in the population.

The rate of increase in secondary-school enrollment has also been substantially constant throughout the period. These facts are ex-

hibited graphically in the accompanying diagram (diagram 1), which shows the curve of secondary-school enrollment from 1895 to 1914 applied to the curve of population. All but a small portion of this

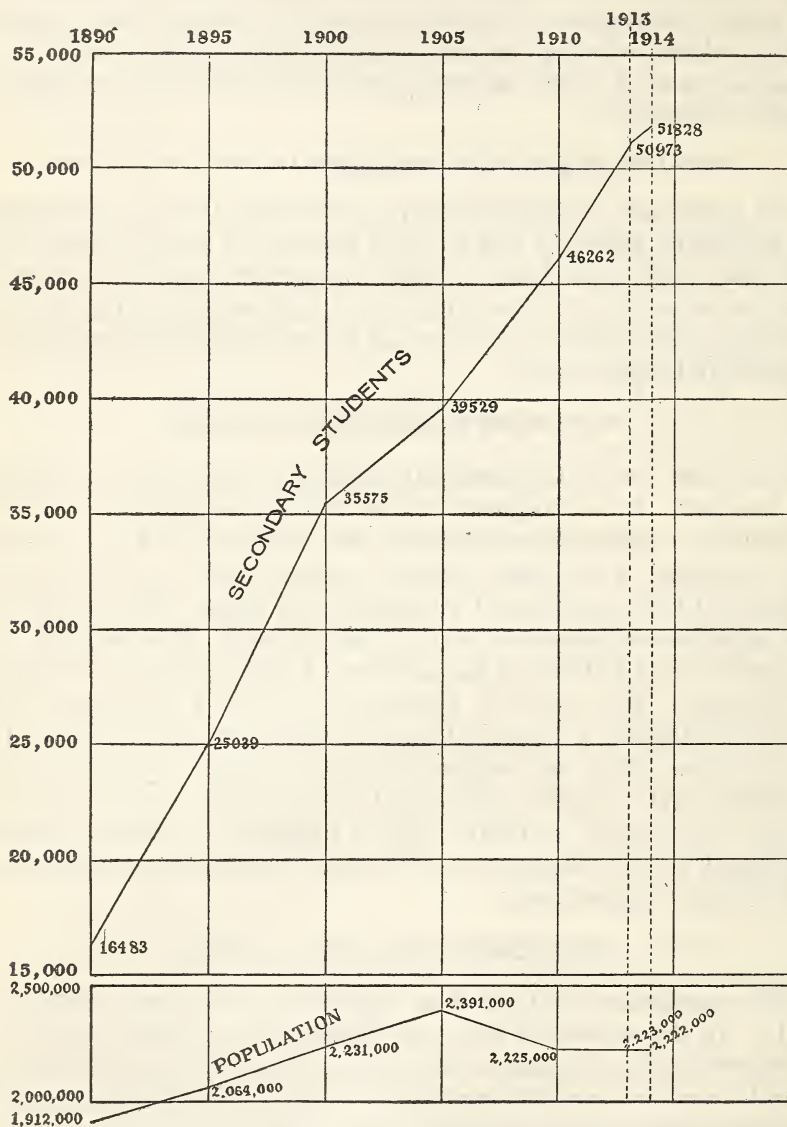


DIAGRAM 1.—Secondary students and population.

increased enrollment has occurred in the public high schools. In 1900, for instance, 13 per cent of the secondary-school pupils were in private secondary schools or the preparatory departments of

colleges; in 1914 only 11.5 per cent were in other than public secondary schools, the gain in enrollment during the 14 years being but 996.

It is also interesting to note that during the period from 1900 to 1914 there was a slight gain in the relative number of students in the graduating classes of secondary schools. In 1900, 12.9 per cent of

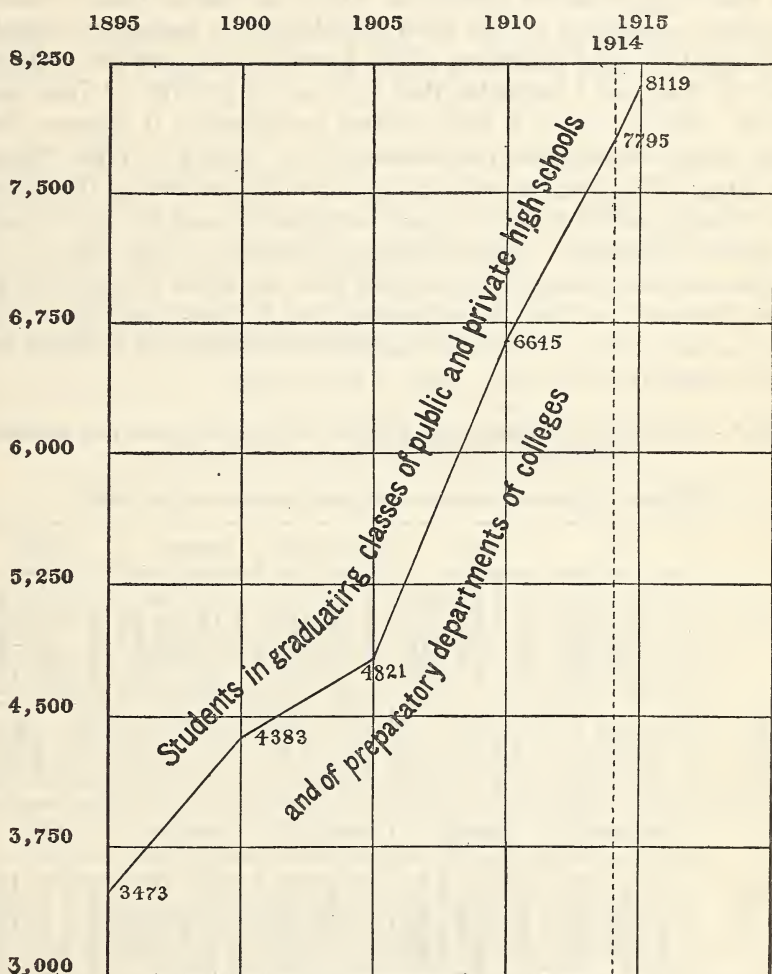


DIAGRAM 2.—Graduates of secondary schools.

the total secondary-school enrollment was in the senior year. In 1914 the percentage was 14.2. The curve illustrating the numerical increase in students in the graduating classes of secondary schools is shown in diagram 2.

The increase in public secondary education is not phenomenal.¹ Indeed the appended table (Table 1) indicates that a number of other States have outstripped Iowa in the rate of gain. Those States were selected for inclusion in the table which were known to have made considerable progress in secondary education in the past 15 years. But Iowa has an exceedingly large proportion of the total population receiving secondary education. Only one State—Utah—reports a greater percentage of the total population in secondary schools. Although the slight flattening of the curve for the past two or three years in diagram 1 indicates that the rate of growth of Iowa secondary schools is now a little slower, nevertheless, it appears that Iowa must contemplate the likelihood of having a much larger percentage of its total population in secondary schools in the future and of being called upon to spend yet greater sums for this branch of public education. Educationally advanced as the State is in comparison with many others, it still falls far short of realizing the ideal cherished not only by educators, but by most intelligent citizens, namely, the provision of adequate facilities for suitable secondary education for every child of school age.

TABLE 1.—*Percentage of change in population, school population, and secondary enrollment in certain States from 1895 to 1914.*

[Figures in *italic* indicate percentage of loss; other figures, percentage of gain.]

Years.	Iowa.			Georgia.			North Carolina.			Tennessee.			Illinois.		
	Population.	School population.	Secondary enrollment.	Population.	School population.	Secondary enrollment.	Population.	School population.	Secondary enrollment.	Population.	School population.	Secondary enrollment.	Population.	School population.	Secondary enrollment.
1895-1900.....	8.1	6.4	34.7	13.4	13.4	7.8	10.2	10.2	12.0	8.8	10.7	8.5	9.9	9.9	31.2
1900-1905.....	7.2	2.8	11.1	8.6	2.0	9.3	7.3	1.0	5.6	6.3	.7	15.6	10.3	6.8	19.8
1905-1910.....	7.0	7.0	17.0	8.5	3.4	35.2	8.6	2.1	54.6	1.8	1.5	51.6	6.0	3.2	32.7
1910-1914.....	.1	7.9	12.3	6.4	6.8	29.3	6.0	10.4	35.7	3.2	2.9	22.1	6.2	4.5	17.6

Years.	Minnesota.			Michigan.			Washington.			California.			Utah.		
	Population.	School population.	Secondary enrollment.	Population.	School population.	Secondary enrollment.	Population.	School population.	Secondary enrollment.	Population.	School population.	Secondary enrollment.	Population.	School population.	Secondary enrollment.
1895-1900.....	7.7	7.7	33.9	6.4	7.4	27.3	9.1	0.8	65.1	6.8	6.9	32.4	4.5	4.5	33.3
1900-1905.....	12.6	14.3	41.3	7.3	4.5	16.1	15.5	39.3	97.4	9.2	5.1	65.8	11.9	12.4	32.4
1905-1910.....	5.3	5.3	45.0	9.9	9.7	20.1	90.8	70.5	111.7	46.7	45.9	46.0	20.5	20.6	39.9
1910-1914.....	6.7	1.8	32.2	5.9	3.5	25.5	23.3	19.5	36.0	16.0	.73	47.4	11.0	1.1	34.7

¹ For curves of the secondary-school enrollment in Ohio, see Appendix.

TABLE 1.—*Percentage of change in population, school population, etc.—Contd.*

Years.	Massachusetts.			New York.			Ohio.			Connecticut.			Pennsylvania.		
	Population.	School population.	Secondary enrollment.	Population.	School population.	Secondary enrollment.	Population.	School population.	Secondary enrollment.	Population.	School population.	Secondary enrollment.	Population.	School population.	Secondary enrollment.
1895-1900.....	13.4	13.4	26.7	13.7	13.8	62.4	9.8	9.8	33.5	13.3	13.6	26.2	8.2	8.2	33.4
1900-1905.....	10.2	7.0	24.9	8.7	5.8	21.7	5.8	1.3	16.9	8.9	6.1	14.7	8.3	3.0	28.2
1905-1910.....	9.0	6.0	18.3	15.3	9.4	30.4	8.3	7.6	6.6	12.7	12.5	31.8	11.0	4.5	31.2
1910-1914.....	7.1	10.6	24.1	8.6	8.9	24.2	5.5	10.5	16.1	7.9	8.1	38.4	7.6	8.6	33.8

The public secondary schools, which enrolled in 1914 between 45,000 and 46,000 pupils, may, for purposes of this study, be divided into three classes: Four-year high schools accredited by the State board of education; four-year high schools not accredited by the board, but approved by the State superintendent of public instruction, and high schools approved for less than a four-year course. These are distributed numerically as follows:

Accredited high schools.....	351
Unaccredited, but approved, four-year high schools.....	115
High schools approved for less than a four-year course.....	135

In addition there is probably a small group of unapproved and unaccredited high schools, some of which carry less than a four-year course.¹

It is apparent that a considerable majority of the high schools of the State are accredited by State higher institutions. The accredited schools enroll also, as might be expected, a disproportionately large number of pupils. The total enrollment in the unaccredited high schools is reported as less than 5,000.¹ About 90 per cent of the public high-school pupils are, therefore, now attending schools equipped to prepare for the best institutions of college grade. Moreover, 70 of the 115 as yet unaccredited four-year high schools are striving to qualify themselves for the accredited relation. Iowa's secondary school system, viewed as a whole, offers a channel between elementary and higher institutions remarkably free from obstruction. It has undoubtedly been one of the most effective agencies in the popularizing of higher education. Indeed, a mere statistical summary shows that the State has gone far toward the creation of a thoroughly coordinated State system of public education.

As has generally been the case throughout the United States, the public institutions which have received least material support and

¹ In spite of repeated requests made to the responsible officials, the commission has been unable to secure any accurate and complete numerical summary of the high-school opportunities in Iowa. It has been obliged to rely for many items on the returns made annually to the Bureau of Education.

the smallest amount of service from educational leaders have been the schools in small rural communities, both the elementary and the high schools. The commission has had no opportunity to study elementary education in Iowa. It has been able to give but slight personal attention to secondary education, but it is credibly informed that the lower schools generally have attained the least satisfactory development of any part of the State system. Next after them are the small country high schools, many of which maintain less than a four-year course and so can not be considered as in line for recognition through accrediting by the State higher institutions. These statements are in the main borne out by the statistical returns made to the Bureau of Education, which show that in elementary education Iowa does not hold the same high relative position as in the field of secondary education.¹

It was undoubtedly the apparent neglect of an important group of institutions which led the department of public instruction to undertake, in 1914, the task of inspecting the smaller high schools and approving those which were maintaining sincere and honorable standards and serving the peculiar local needs of their respective communities whether these schools were eligible to the accredited relation with the State higher institutions or not. The department approves one, two, three, or four-year high schools which meet the very moderate requirements proposed by it in respect to equipment, organization, curriculum, methods of instruction, and general spirit. But it does not restrict its inspection to unaccredited schools and those ineligible for accrediting; the accredited schools and the schools in the larger places are also included in the sphere of its operations.

There are, then, two different groups of recognized public high schools in Iowa,² judged by two different sets of officials using two different standards and responsible to two different authorities. The tendency of the State department of public instruction will naturally be to estimate schools according as they serve local needs, which will be perhaps increasingly vocational. The tendency of the State board's inspectors will quite as naturally be to consider high schools from the point of view of higher institutions. No school can, of course, be accredited unless it is equipped to give instruction in the subjects required for entrance by the State higher institutions.³

In this anomalous situation the stage is set for lack of harmony, misunderstanding, and eventual conflict. The fact that these evil results have not yet appeared does not remove the danger. The com-

¹ For summaries of school population, attendance, length of school year, per cent of total population undergoing elementary education, etc., see Report of the Commissioner of Education, Vol. II, p. 1 et seq., 1914.

² Mention is not made here especially of the high schools with normal-training classes.

³ These entrance requirements might be called conservatively progressive, by no means as liberal as those of some neighboring State institutions, and, on the other hand, more liberal than those of many eastern universities of similar standing.

mission would by no means advocate that all high schools be judged by the same criteria, or that no school be granted the encouragement of recognition by State authority unless it is equipped to prepare for college; but it considers the inspection of the same schools by different authorities offering contrary advice and holding up conflicting ideals of development to be a calamity for the smaller high schools and to exhibit a faulty governmental organization. Later in this report (see p. 125) various readjustments are suggested looking toward the coordination of the two types of inspection and standardization.

HIGHER EDUCATION IN IOWA.

Iowa is relatively well supplied with opportunities for secondary education. It is almost equally favored with facilities for higher education. The Bureau of Education has for several years listed 25 colleges and universities within the State. Forthcoming lists will add another to this number. In the report of this commission Iowa is therefore credited with 26 institutions of collegiate rank.¹ These are Buena Vista College, Central College, Central Holiness University, Coe College, Cornell College, Des Moines College, Drake University, Dubuque College, Ellsworth College, Graceland College, Grinnell College, Highland Park College, Iowa State College of Agriculture and Mechanic Arts, Iowa State Teachers College, Iowa State University, Iowa Wesleyan College, Leander Clark College, Lenox College, Luther College, Morningside College, Parsons College, Penn College, Simpson College, Tabor College, Upper Iowa University, and Wartburg College. The accompanying maps (maps Nos. 1 and 2) show their locations and the population of the State by counties according to the census figures of 1910.

The population of Iowa is evenly distributed. Not only is there little tendency toward an increase in density around the few larger centers, but there are practically no sparsely populated counties. In comparison with that of most other States, also, the population is remarkably homogeneous, intelligent, and prosperous. It is predominantly agricultural. These facts would of themselves tend to distribute the pull of higher institutions rather evenly over the State, if the institutions were located strategically so as to avail themselves of these favorable conditions. A glance at the maps, however, shows that the colleges and universities are concentrated in the eastern part of the State. Only four are located west of a line drawn north and south to pass just west of Des Moines. Indeed, 16, includ-

¹ To be included in the college list of the Bureau of Education an institution must be authorized to give degrees; must have definite standards of admission; must give at least two years' work of standard college grade, and must have at least 20 students in regular college status.

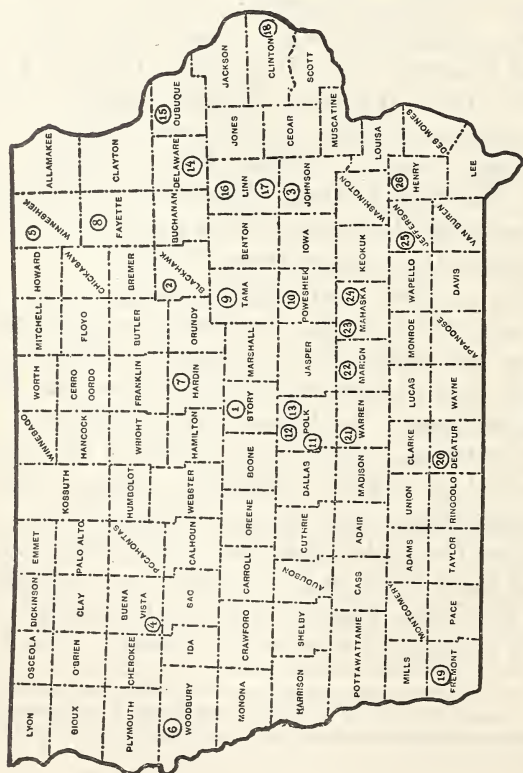
COLLEGES IN IOWA.

STATE COLLEGES.

1. Iowa State College of Agriculture and Mechanic Arts, Ames.
2. Iowa State Teachers College, Cedar Falls.
3. State University of Iowa, Iowa City.

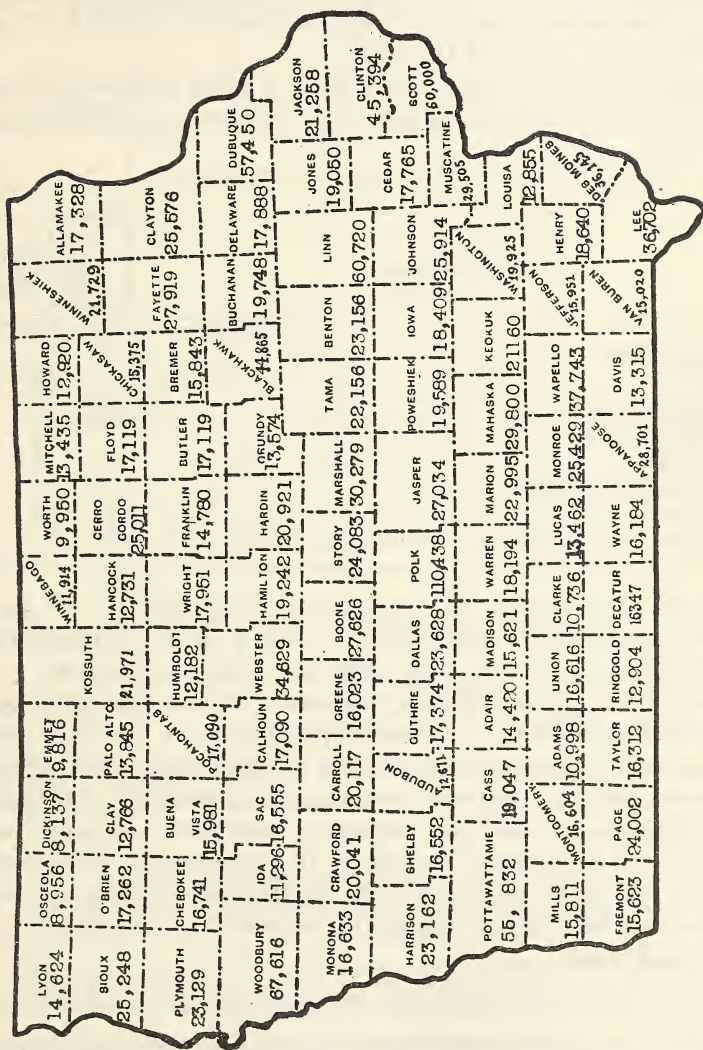
PRIVATE COLLEGES.

4. Buena Vista College, Storm Lake.
5. Luther College, Decorah.
6. Morningside College, Sioux City.
7. Ellsworth College, Iowa Falls.
8. Upper Iowa University, Fayette.
9. Leander Clark College, Toledo.
10. Grinnell College, Grinnell.
11. Des Moines College, Des Moines.
12. Drake University, Des Moines.
13. Highland Park College, Des Moines.
14. Lenox College, Hopkinton.
15. Dubuque College, Dubuque.
16. Coe College, Cedar Rapids.
17. Cornell College, Mount Vernon.
18. Wartburg College, Clinton.
19. Tabor College, Tabor.
20. Graceland College, Lamoni.
21. Simpson College, Indianola.
22. Central University of Iowa, Pella.
23. Central Holiness University, University Park.
24. Penn College, Oskaloosa.
25. Parsons College, Fairfield.
26. Iowa Wesleyan College, Mount Pleasant.



MAP 1.

Colleges and universities in Iowa. For population by counties, see Map 2, opposite.



MAP 2.

Population of Iowa by counties (for use in conjunction with Map 1, showing location of colleges and universities).

ing 4 of the largest, are in the southeastern quarter of the State. In other words, the location of Iowa colleges bears slight relation to centers of population. These facts have an important bearing, especially on teacher training, a question discussed later in this report. The somewhat serious geographical handicap which certain of the institutions suffer through the accident of their foundation is hardly offset by the excellent steam and electrical transportation facilities, which reach every corner of the State.¹

The opportunities for higher education in these colleges and universities in courses leading to degrees may be summarized as follows:

TABLE 2.—*Number of higher institutions.*

Type of institution.	Total number of institutions.	State institutions included.
Colleges of arts and sciences.....	26	3
Schools of theology.....	1	0
Schools of law.....	2	1
Schools of medicine.....	1	1
Schools of homeopathic medicine.....	1	1
Schools of veterinary medicine.....	1	1
Schools of dentistry.....	1	1
Schools of pharmacy.....	2	1
Schools or courses of civil engineering.....	4	2
Schools of engineering (other branches).....	3	2
Schools of agriculture.....	1	1
Schools of music.....	5	2
Schools of education or courses in education preparing for State certificates.....	25	3

Of the 26 institutions, 14 maintain summer schools, 19 have academies (preparatory departments), and 3 others subfreshman or noncollegiate courses;² 2 of the latter are State institutions.

Certain interesting facts detach themselves at once from this summary: First, the majority of collegiate institutions in the State have entered the field of professional training in one branch only—education. Second, State institutions have an actual monopoly of training in the professions of medicine, dentistry, veterinary medicine, and agriculture, and a practical monopoly in engineering. Third, the only fields in which two or more State institutions are offering work in the same lines leading to a degree are arts and sciences, engineering, education, and music.

¹ Most of the colleges are old foundations established before the population became stable.

² In a State as well supplied with secondary schools as Iowa there appears to be no valid educational excuse for the continued existence of so many academic departments connected with private colleges. For the majority of these institutions this means a division of resources and a probable lowering of scholastic tone. That it is unnecessary in order to get properly trained students is evidenced by the fact that several of the strongest colleges no longer maintain academies. Moreover, only four academies are accredited by the State board of education as qualified to prepare students for the State higher institutions.

With one exception,¹ all the higher institutions of the State were founded before 1895, i. e., before the period of most rapid increase in the number of pupils in secondary schools. Reference to diagram 1 (covering the period from 1890 to 1915) shows that the curve of

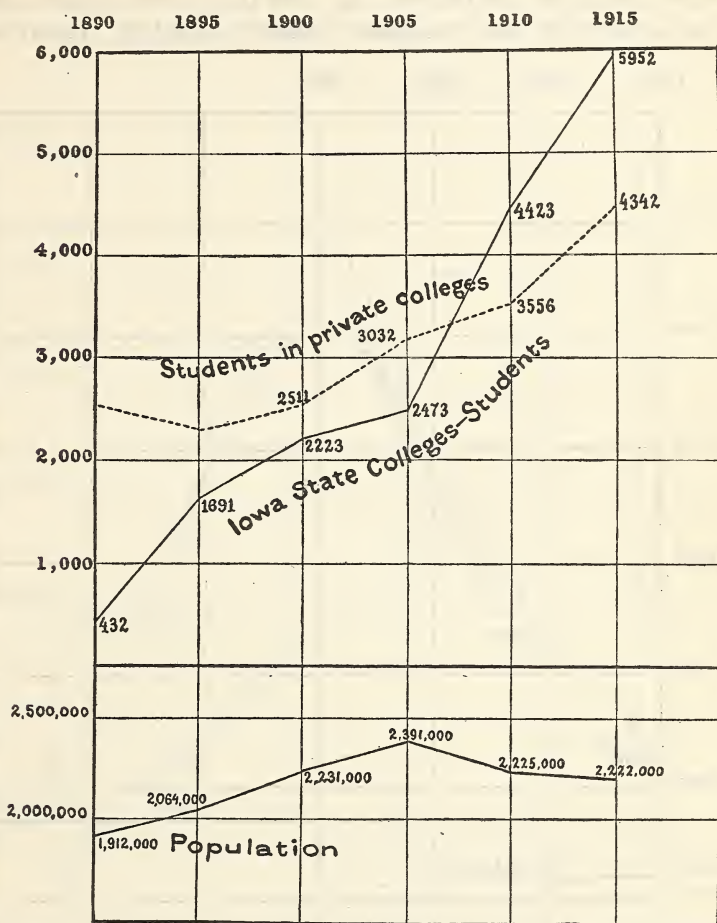


DIAGRAM 3.—Enrollment in State and private colleges, 1890-1915, in relation to population.

NOTE.—In this diagram there were several large variations which seemed to be due to errors in collecting the figures rather than to actual conditions. These points have been omitted in plotting the curve of private colleges: 1908—9,232; 1912—6,413; 1914—9,762.

secondary-school enrollment has the sharpest upward trend from 1895 to 1900. It is interesting to compare with these enrollment figures those of the collegiate institutions during the same period.

¹ Central Holiness University, founded in 1906, and enrolling 41 collegiate students in 1915.

² Highland Park College, which was not in the list of collegiate institutions of the Bureau of Education until the present year, is not included in summaries appearing in this chapter.

It appears that there were 2,254² students in the collegiate and professional courses (all preparatory and noncollegiate students having been eliminated from the returns) of all the privately-supported institutions in 1895, and 1,691 in the collegiate and professional courses of the State institutions. In 1905 the private higher institutions enrolled 3,032 and the State institutions 2,473. By 1914 the

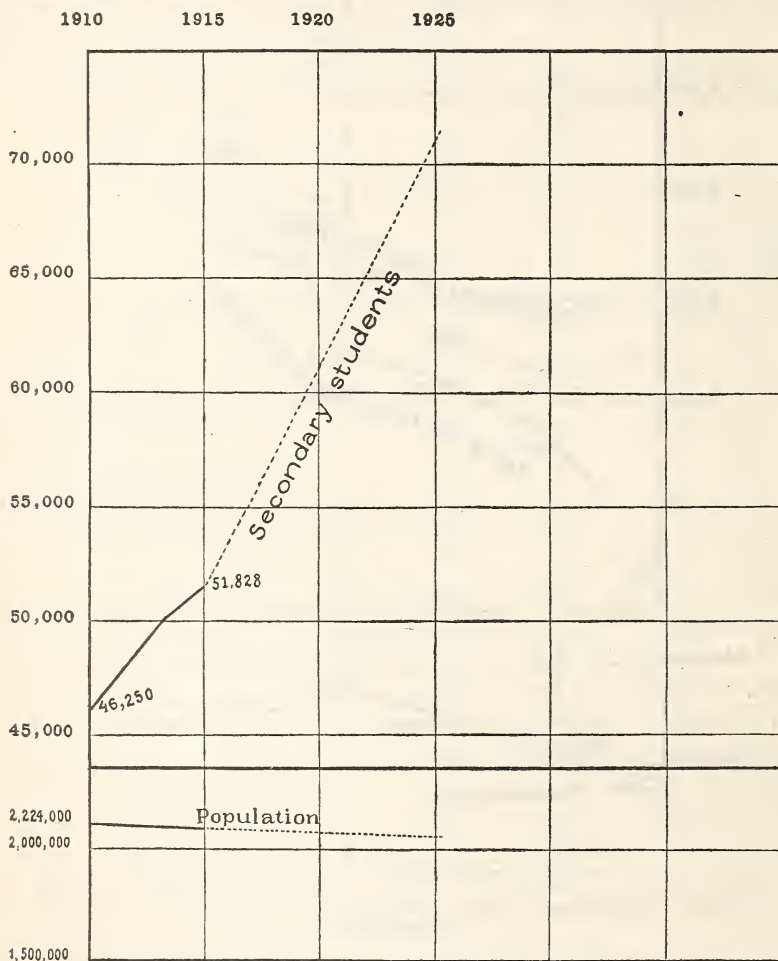


DIAGRAM 4.—Forecast of secondary school enrollment to 1925.

figures had grown to 4,342 for the private colleges, and 5,952 for the State colleges.¹ It appears that the most rapid upward movement

¹ Summer-school students are included in these figures and reduced to approximately a 36 week basis. Figures of the State board are used for State institutions since 1910. But attention is especially called to the fact that the figures on which both these curves and those in the diagrams are based do not include the large group of special, irregular, and noncollegiate students, all of which are reckoned by the higher institutions in their total enrollments.

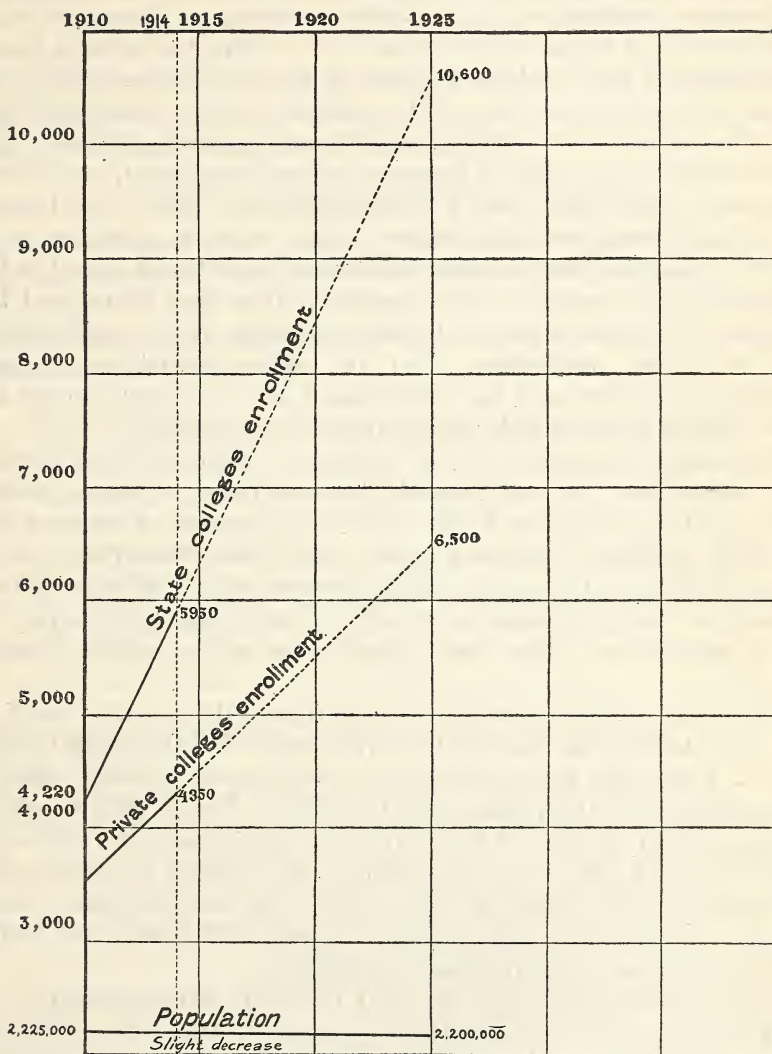


DIAGRAM 5.—Forecast of college enrollment to 1925.

For the enrollment in State colleges and private colleges since 1890, see Diagram 3, p. 27.

in both enrollment curves has taken place since 1905, the sharpest ascent being within the past five years. Both curves have kept close together, although there has been a slight relative gain on the part of the State institutions. Neither shows as yet a tendency to flatten.¹

In view of these facts, the commission may be warranted in hazarding certain opinions as to the future tendency in the quantitative development of higher education in Iowa. First, the increase in the enrollment of Iowa colleges is likely to go on at approximately the same rate for several years. The reasons for this assumption are: (1) The expansion of collegiate enrollments generally follows a few years behind the growth of secondary-school enrollment, and Iowa's secondary schools have been growing fast for 20 years. (2) Iowa is exceedingly prosperous and places a high value on education, as is shown by the fact that its relative secondary enrollment is next to the highest in the country. (3) In spite of this, nine States and the District of Columbia have a larger percentage of the total population in higher institutions. (4) Its higher institutions through extension activities and the development of vocational courses are now making a particularly strong appeal for patronage.

The second assumption is that without an increase in the population of the State, not now foreseen, the enrollment in higher institutions is likely to become fairly stable in the course of the next two decades, probably increasing slowly each year thereafter, but no longer subject to the rapid annual increases which prove so embarrassing to many administrative officers, and which, in the case of State institutions, cause some apprehension in the minds of legislators.

Third, the privately endowed institutions will probably continue to share the field on more or less even terms with the State institutions. Each type has its distinctive contribution to make; each is strengthened by the presence of the other. But it should not be forgotten that citizens of the State to a large extent pay for both. In the case of the private institutions the taxation is indirect and frequently so distributed in time as to be an inappreciable present burden. But it is the money of the citizens of the State that in the main funds and supports these institutions.

An interesting revelation of what the State may reasonably expect in the way of educational development is found by continuing upward for the next 10 years the curves of secondary and college enrollment. According to this forecast the enrollment for 1925 would be approximately 68,000 in secondary schools, 9,900 in State higher institutions, and 6,500 in private colleges (diagrams 4 and 5).

¹ Interesting for comparison are similar enrollment curves for Ohio. See Appendix.

Of course, precisely the conditions indicated by these imaginary curves, especially the relative gain of higher over secondary institutions, may not occur, but undoubtedly the tendencies may be thus indicated. The inevitable conclusion is that, if it wishes to maintain its enviable educational position among the States, Iowa must prepare to spend increased sums of public money for higher education for some years to come.

The present relative positions of the privately supported and the State-supported higher institutions may be made clearer if each group is considered separately for a moment.

PRIVATELY SUPPORTED COLLEGIATE INSTITUTIONS.

The great majority of privately supported colleges of Iowa were founded and are still maintained by religious denominations. Their denominational affiliations, together with their total collegiate enrollments (excluding summer schools) for the year 1914-15, may be summarized as follows:

Five Methodist.....	1, 350
Three Presbyterian.....	212
Two Baptist.....	288
Two Lutheran.....	168
One Roman Catholic.....	157
One Latter Day Saints.....	24
One Friends.....	166
One Congregationalist.....	119
One United Brethren.....	77
One interdenominational.....	41
Five nonsectarian.....	1, 920

The nonsectarian group contains, with one exception, the three largest institutions.

As has been shown, these privately supported institutions have thus far practically confined themselves to the field of liberal education. They have established courses for the training of high-school teachers, but these courses, while semiprofessional in character and designed to fit for a calling commonly rated as a profession, are for the most part neither so advanced nor so extensive as to constitute a serious excursion into the field of scientific professional and technical education. Indeed, in Iowa, as in most other States, requirements for the high-school teacher's certificate do not demand professional training in the generally accepted sense of the term. The clientele of the privately supported colleges is therefore in the main made up of boys and girls seeking a college education of a liberal or general nature.²

¹ Figures of 1913-14.

² This statement applies only in part to Highland Park College and Drake University.

College education in institutions strongly denominational in tone, or at least predominantly religious in atmosphere, and of a comparatively small size, is securely entrenched in the regard of large groups of parents. The appeal of such institutions is often stronger than that of State colleges which may possess superior scholarly resources and equipment. The commission does not attempt to weigh the relative advantages of liberal training in the two types of institutions. It merely notes the fact. The patronage of the private college is affected in increasing measure by certain other considerations, however.

The first of these considerations is the ability of the institutions to enlarge their resources. No college can now be successfully run on fees alone. Higher education is becoming more expensive all the time. Appliances are now necessary which were not invented a generation ago. Libraries must be renewed and increased. Salaries are slowly but steadily advancing. To be assured of permanent existence and the power to draw students, a college must possess some endowment. Numerous agencies which study colleges have placed the minimum of productive endowment which an institution must have to insure permanency and efficiency at \$200,000.¹ In the near future even this amount will probably be insufficient. Of the privately supported colleges of Iowa, only 10 have endowment funds exceeding this minimum figure; 4 have no endowment at all. The endowments of the others range from \$25,000 to \$165,000. It is reasonable to expect that some of the institutions without endowment or with less than \$200,000 may find it advantageous to consolidate with others, to become junior colleges, or possibly to devote themselves to less expensive grades of educational work.²

The patronage of all but the strongest and best-equipped private colleges, or of those which serve a peculiarly cohesive sect, has been found to be sharply limited also by geographical considerations. Young people are prone to attend a college located in their own State. Moreover, most colleges draw the majority of their students from within a radius of 50 miles. Few institutions obtain any considerable percentage of their enrollments from outside a circle with a radius of 100 miles.³ Maps prepared by the officers of the Iowa colleges furnish confirmation of this well-recognized truth.⁴

The third factor affecting the enrollment in private colleges is the keen competition for students among the colleges themselves. In the majority of the thickly settled parts of the country—and doubtless in Iowa—the same area is canvassed annually by many institu-

¹ Exception is made of Roman Catholic institutions, whose teachers serve without salary.

² Graceland College has already become a junior college.

³ See General Education Board report 1902-1914, pp. 119 et seq.

⁴ For these maps see Appendix, p. 211.

tions. What are thought to be the chief attractions of each are diligently presented to prospective students. The colleges possessing the largest resources and exhibiting the most dynamic institutional life tend inevitably to draw more and more students and so to win an advantage, at least in point of numbers, over their less fortunate or less skillful rivals. In some quarters of the United States inter-institutional competition has already forced a few weaker institutions out of existence or has led to consolidations. Similar results may in course of time occur in Iowa.

The relations of Iowa private colleges to the secondary schools of the State are not in all cases as clearly defined as are those of the State higher institutions to the same schools. Nineteen colleges belong to the Iowa College Association, members of which agree to admit on certificate graduates of only those secondary schools within the State that are accredited by the State board of education. Six of these announce that they admit on certificate the graduates of schools accredited by the State board of education or by the North Central Association of Colleges and Secondary Schools. The other 13 announce that they admit graduates of accredited schools without explaining the term. Indeed, the catalogues of several of these institutions treat the subject of admission by certificate with less definiteness than might be wished. It is assumed, however, that all members of the Iowa College Association have the same standards of admission as the State institutions. The remaining four colleges are somewhat vague in their statements on this point.

The general impression gained from a study of the catalogues of the private colleges of Iowa is that there are at least two standards, of which the relations of the colleges to the secondary schools may serve as the indices. One, the higher, is the standard set by the State institutions and scrupulously observed by some of the private colleges. The other is something less severe than this.

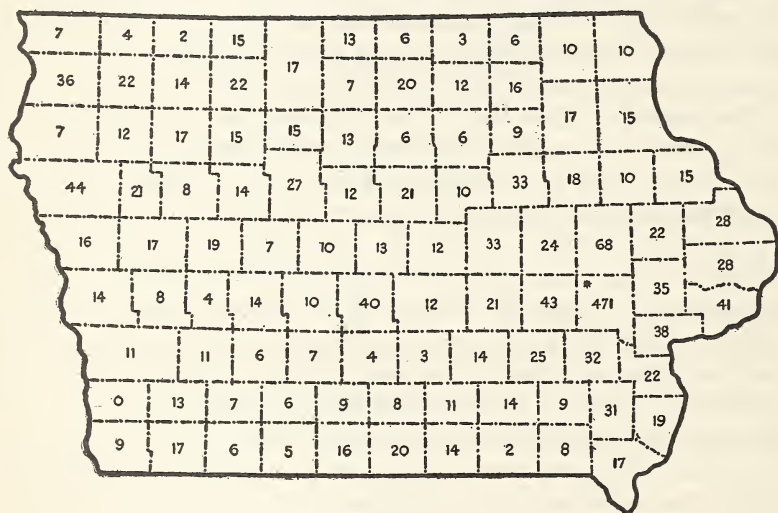
STATE-SUPPORTED INSTITUTIONS.

A few general statements concerning the State-supported institutions, treated as a group by themselves, should be juxtaposed to this discussion of private colleges. The accompanying maps show the distribution of students of the State institutions as to residence among the counties of the State.¹ It is evident that the drawing power of all three State institutions is exerted more evenly over the whole State than is that of any private college. The figures also show that these institutions, as well as the private colleges, attract relatively larger numbers from the territory in their immediate vicinity.

¹ The enrollment maps of the State College of Agriculture and Mechanic Arts and the State Teachers College include also the students in other collegiate courses.

Detailed studies of the amounts of money spent for the State higher institutions appear in later sections of this report. At this point it suffices to note two facts.

The first relates to the sources of income of the State as against the private institutions. For increases in their permanent incomes private colleges are dependent wholly upon the variable generosity of individual benefactors. That any considerable increase will come can not—except under the operation of a kind of law of probability which appears providentially to govern the affairs of colleges—be counted upon with certainty in advance. State institutions, on the other hand, grow rich in material support with the growth in wealth



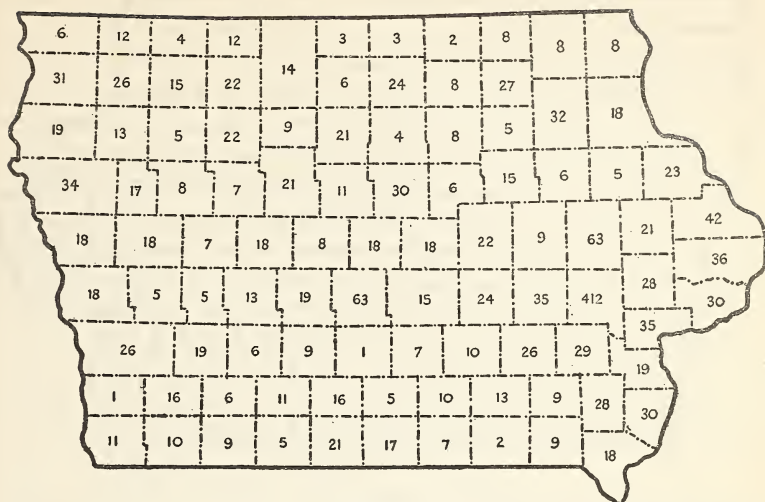
MAP 3.

Iowa State University. Enrollment by counties, 1912-13.

Students from outside of State: Illinois, 32; Kansas, 10; Minnesota, 34; Missouri, 16; Nebraska, 12; North Dakota, 10; South Dakota, 27; other States, 49; foreign countries, 27. Total, 217.

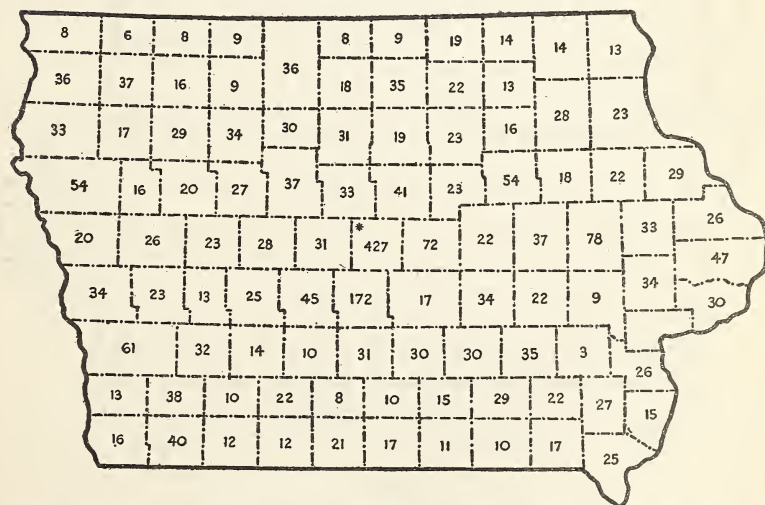
Total students in the university, 2,255.

or population, or both, of the States that maintain them. The appropriations for State higher education are everywhere greater every year. State legislators as a rule are not only willing to pay larger amounts for higher education at each recurring session, but they do not hesitate to appropriate constantly larger percentages of the State's total funds. It is only necessary that the officers in charge of State institutions make a convincing showing that the money is needed and that it is being advantageously spent. As yet the probable limits of State generosity in this direction can not be guessed. For all practical present purposes, therefore, State institutions have an unlimited source of support, even if the source does prove itself at times hard to tap. If this is true in general, it is especially true



MAP 4.

Iowa State University. Enrollment by counties, 1914-15. (First semester.)



MAP 5.

Iowa State College of Agriculture and Mechanic Arts. Enrollment by counties, 1913-14. From other States: Washington, 2; Oregon, 3; California, 13; South Dakota, 26; Minnesota, 60; Nebraska, 51; Kansas, 9; Wisconsin, 10; Illinois, 79; Missouri, 16; Indiana, 17; Kentucky, 11; Ohio, 14; New York, 10; Pennsylvania, 18; other States, 59; foreign countries, 25. Total, 3,458.

of Iowa. The State has shown itself unusually generous toward its State institutions. It is rich and growing richer. The commission has also been informed by many representatives of public opinion that there is no desire on the part of the State to curtail the appropriations required by the State institutions, provided only there is no remediable waste in institutional expenditures.

The other fact worth noting here is the actual increase in State appropriations for higher education. Diagrams printed in the Appendix show curves illustrating for Illinois, Indiana, Iowa, Kansas, Michigan, Minnesota, Montana, Ohio, Oregon, Texas, Washington, and Wisconsin the increases in total State funds appropriated and the increases in the appropriations for State higher institutions.¹ The conditions here shown may be regarded as typical for the prosperous States of the country. The commission points out later in the report that Iowa may probably save some money in the conduct of its institutions, and consequently make a better comparative showing, without adopting a niggardly policy.

The entrance requirements of the State higher institutions are uniform. (See p. 16.) They compare favorably as to quality and quantity of secondary work demanded with those imposed elsewhere in the country by institutions of the highest standing. Moreover, the investigations of the commission indicate that they are in all three institutions conscientiously enforced.

It is believed that this brief presentation of the current conditions of higher education in Iowa will reveal the fact that the State institutions enjoy certain great advantages which private colleges lack and that they are burdened with corresponding responsibilities for leadership and the establishment of standards. The suggestion is also made and will be amplified later that there are certain organic defects in the administrative machinery whereby they are controlled, defects that must hamper their legitimate and harmonious development and that call for immediate remedy. Iowa has a single State university system or a single higher educational enterprise. (Except to avoid possible legal complications, it is not important what term is used to characterize it. Its nature is not altered by the use of any term.) This enterprise is divided into three parts and operated from three centers, but in its general purposes, its area of patronage, its support and its responsibilities, it is a unit. That the State has appreciated this fundamental unity and has desired to promote it is evidenced by the fact that it has placed all three institutions under the control of a single board. Iowa's greatest educational task is to transform this, as yet, almost wholly external and mechanical unity into a real unity of aim supported by mutual friendly cooperation.

¹ See Appendix, p. 200.

Chapter II.

EXPENDITURES OF IOWA STATE INSTITUTIONS OF
HIGHER EDUCATION.

The State board originally sought the assistance of the Commissioner of Education in the preparation of a budget for the next biennium.¹ The commission has interpreted this fact as a mandate to hold the question of costs continually in mind. While, as has already been implied and will be pointed out in detail later, the commission does not regard the fiscal aspects of the problem confronting the board as the most perplexing, nevertheless, the obligation laid upon the board to conduct the institutions under its control with all reasonable economy has been fully appreciated in the inquiry. It is realized that the fiscal test is the ready popular test which will always be applied as an estimate of the success of the board's stewardship. As a means of orientation, therefore, in the study of the three State institutions of higher education, specific discussion begins with an analysis of the expenditures of the institutions for the past two academic years.

The expenditures of different institutions of higher learning differ in many particulars. The forms in which these expenditures are reported differ still more. The commission has made an endeavor to summarize the expenditures of the three State higher institutions of Iowa in a form that would give a somewhat comprehensive and suggestive view of them. As the survey is chiefly concerned with various phases of the educational work of the institutions, the total expenditures for the year are first divided into two main groups: *Educational expenditures* and *extension and service expenditures*. The *educational expenditures* are then divided into three separate categories: *Construction and land*, *special and rotating funds*, and *operating expenditures*.

The category *construction and land* includes expenditures for direct additions to the plant to provide for growth in enrollment, together with outlays for the ordinary furniture of new buildings. *Special and rotating funds* include expenditures from prize funds, boarding and rooming departments, and special funds available only for indicated purposes apart from instruction. These two classes of expenditures are in a certain sense entirely independent of the cost of the operating of the educational plant.

The category *operating expenditures* includes all expenses for the annual maintenance of the institution aside from dormitories and boarding departments. It is further analyzed into *instruction*, *edu-*

¹ See introduction, p. 7.

cational equipment and supplies, and general operating expenses. The distribution of the expenditures of the institutions may be arranged as follows:

Total expenditures.	{ Educational.	{ Construction and land.	{ Instruction. Educational equipment and supplies. General operating expenses.
		{ Special and rotating funds.	
		{ Operating expenditures....	
	{ Extension and service.		

Of the subdivisions under *operating expenditures*, the first—*instruction*—includes the salaries of the deans, but not those of the president, other purely administrative officers, and librarians. The second, *educational equipment and supplies*, includes, in addition to all funds expended for departmental purposes under faculty control, also the expenditures for books and library supplies. The third, *general operating expenses*, comprises what might be classed as the overhead expenses of the institution, including the salaries of administrative officers, janitors, etc. These expenditures are essential to the main work of instruction, but have no direct relation to it.

From a business point of view, part of the expenditures under the second and third subdivisions of the preceding paragraph might be considered capital account outlays. In a college or university, however, they are rather annual expenses, necessary to keep the institution abreast of the times. They never stop. For example, \$1,000 spent for books can certainly be charged to capital account, as it definitely increases the property of the institution. On the other hand, no matter how much may be spent for books in any one year, more money is required each year thereafter in ever-increasing amounts to meet the new demands of scholarship and the expansion of the field of knowledge. So, in this distribution, all expenses which may be looked forward to by the administration as necessary annual expenses are classed under *operating expenditures*.

In determining the average cost per student, the average number of students in attendance during the college year September to June is taken. It is to be noted that there is a distinction between the enrollment as ordinarily stated in a catalogue and the figures here used. The usual catalogue statement of enrollment includes all students who have attended the institution during any part of the year of 12 months. Often the summer enrollment is large. Generally the number of students in actual attendance rises from the opening of college in September for about two weeks to a maximum, and then declines because of withdrawals until the close of the term. The second term or semester usually opens with increased numbers, again reaching a maximum shortly after the opening day, and then gradually declining until the close of the year. The commission is of the opinion that an average of the largest

attendance in the two semesters gives the best average attendance available. This point may be illustrated with figures for the State college, 1914-15:

Catalogue enrollment	3, 629
Attendance Oct. 1, 1914.....	2, 522
Attendance Feb. 15, 1915.....	2, 467
Average attendance	2, 495

Attention is called to the following table, showing the per capita cost of the three institutions for 1913-14 and 1914-15:

TABLE 3.—*Per capita cost of three institutions in 1913-14 and 1914-15.*

Items of expenditure.	State university.	State college.	Teachers college.
<i>In 1913-14.</i>			
Instruction.....	\$155.00	\$134.00	\$93.50
Educational equipment and supplies.....	41.50	63.50	17.00
General operating expenses.....	78.50	72.50	57.50
Total.....	275.00	270.00	168.00
<i>In 1914-15.</i>			
Instruction.....	160.00	141.00	97.50
Educational equipment and supplies.....	42.50	69.00	14.00
General operating expenses.....	72.00	61.00	58.50
Total.....	274.50	271.00	170.00

The items used in these computations comprise the total cash outlay per student under the general head of *operating expenditures*, except that the cost of instruction for the summer session has been omitted.¹ In other words, for the purposes of this table the *operating expenditures* taken are made up of the sum of the total *educational supplies and equipment*, the total *general operating expenses*, and the *cost of instruction* minus the expenditures for the summer term. Moreover, no interest on investment is included. The *average attendance*, determined in the way described above and not the enrollment, has been taken as the divisor to obtain the per capita cost. The method is further exhibited in the summary tables on pages 42 to 47:²

The commission points out that each student costs the institution from \$170 to \$275 a year. A small part of this expense is met by the tuition and fees paid by the student, but it is not far from the truth to say that each student in actual attendance for the college year costs \$250. With approximately 7,000 students enrolled in 1915-16, this amounts to about \$1,750,000 in operating expenses for the college year.

¹ It should be noted that, while the figures appearing in the three columns are comparable with each other, they are not necessarily comparable with figures for per capita cost reported by any other institution.

² For detail tables from which these summaries have been compiled see Appendix, pp. 184-193.

While this is a large expenditure, it is a most wise one, if the students served are earnest and capable and improve to the utmost the advantages afforded them. Indeed, every student enrolled accepts a trust and is under obligations to justify the outlay of public funds made in his behalf. But the officials in charge of the institutions can not fail to bear in mind the fact that each student carries a very definite cost to the State, not only for operating expenses, but also, as will be shown later, for buildings. The annual rate of increase of student registration is already large and will under natural conditions grow larger, as it should. Until the State is ready to care properly for the students now in attendance upon its higher institutions the wisdom of certain forms of competitive advertising at present in vogue is perhaps problematic. The time when the State college and the State university were unknown to the people is past. They need only to make formal announcement of their offerings and give reasonable publicity to their work to secure as rapid increases in their respective enrollments as can be adequately cared for. Possibly the board should also consider in this connection the advisability of discontinuing subcollegiate work as the number of collegiate students increases; but this question is discussed more fully in another place. (See p. 88.)

In conclusion it may be stated that the present cost per student is low rather than high. It should be increased rather than decreased. In fact, a growth in numbers without a corresponding growth in support will result in weakening the institutions.

Summary Table of Expenditures, University of Iowa, 1913-14.

The University of Iowa. Total expenditures 1913-14.	Educational.		Construction.....	\$212,766.33	Instruction, college year.....		\$354,704.73
	\$833,759.86.		Special funds.....	82,275.94	Educational equipment and supplies..		\$95,406.15
			Operating expenses.	638,717.59—	Instruction.....		364,413.08—
					General operating expenses.....		178,898.36
\$944,058.75.	Extension and service.		Epidemiologist	3,276.98	Instruction, summer term.....		9,648.35
	\$10,298.89		University extension..	7,021.91			
Per capita cost of 2,290 students, September-June, 1913-14. Operating expenses exclusive of summer term, \$275.	Total.		Per capita.	\$155.00	Enrollment:		
	Instruction.....			\$155.00	First semester.....		2,345
	Educational equipment and supplies..		41.50		Second semester.....		2,235
	General operating expenses.....		78.50		Total.....		4,580
	629,069.24		275.00		Average.....		2,290

Summary Table of Expenditures, University of Iowa, 1914-15.

[illegible]

Summary Table of Expenditures, Iowa State College of Agriculture and Mechanic Arts, 1913-14.

Iowa State College of Agriculture and Mechanic Arts. Total expenditures, 1913-14.	Educational. \$1,037,833.47.	Construction.....	\$317,978.63																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																															
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Educational.

\$1,150,081.67.

Iowa State College of Agriculture
and Mechanic Arts.
Total expenditures, 1914-15.

\$1,599,430.41.

Extension and
industrial
service.

\$449,348.79.

Construction..... \$338,336.52

Special funds..... 124,600.42

Operating expenses. 687,144.73—

Educational equip-
ment and supplies. \$172,218.11

Instruction..... 302,291.87—

General operating
expenses..... 152,634.75Construction and
land..... 14,778.21

Special funds..... 140,341.71

Experimental work.. 163,883.32

Operating expenses. 294,228.82—
Extension work..... 130,345.50Instruction, college
year..... \$352,293.82Instruction, summer
term..... 9,998.05

Total.

Instruction..... \$352,293.82

Educational equip-
ment and supplies.. 172,218.11General operating ex-
penses..... 152,634.75

677,146.68

Per capita cost for 2,495 students,
September-June, 1914-15. Oper-
ating expenses, exclusive of sum-
mer term, \$271.

Per capita.

\$141.00

69.00

61.00

271.00

Enrollment:

First semester..... 2,522

Second semester..... 2,467

Total..... 4,989

Average..... 2,495

Summary Table of Expenditures, Iowa State Teachers College, 1914-15.

Iowa State Teachers College. Total expenditures, 1914-15.	Educational.	\$349,495.82.	Construction..... \$86,013.52	Special funds..... 1,779.93	Educational equip- ment and supplies.	Instruction, college \$137,886.75 year.					
							Operating ex- 261,702.37 penses.	Instruction..... 158,581.60	Instruction summer 20,094.85 term.		
										General operating 83,375.69 expenses.	
\$357,598.33.	Extension study center	\$8,102.51.									

Per capita cost for 1,419 students, September-June, 1914-15. Operating expenses, exclusive of summer term, \$170.	Total.	Instruction..... \$137,886.75	Per capita. \$97.50	Enrollment:									
					Educational equip ment and supplies.	14.00	First term..... 1,406	Second term..... 1,485	Third term..... 1,366				
										General operating ex- 83,375.69 penses.	58.50	Total..... 4,257	Average..... 1,419

Chapter III.

DUPLICATION AND THE PRINCIPLE OF MAJOR LINES.

It has been stated that the commission, early in the course of its investigations, became convinced that, if it were to do justice to the problems presented to its consideration, it must take account of certain larger issues which have had a determining influence in shaping the development of educational administration in Iowa and which have in a great measure given rise to the questions on which the State board now seeks advice. The commission is persuaded that no permanent solution of the educational difficulties which the State has experienced can be hoped for until these issues have been resolutely faced and definitely settled on the basis of the highest good of the State and its coming generations of students, whatever the cost to personal or institutional ambitions. It confidently believes that a settlement on this basis is possible and that the necessary procedure is plain. It is far more important that such a settlement should be brought about than that the State should save a few thousands of dollars through economies in institutional management. Without recapitulating the history of State higher education in Iowa, the commission proposes in the present chapter to discuss the existing status of the three State higher educational institutions, especially as regards the fundamental question of duplication, and to point out a remedy which it conceives to be valid for the incoherency in the relationships between them.

The primary difficulty, so far as the three higher institutions are concerned, lies in the lack of clear definitions of scope, particularly as between two of them. In the beginning of State plans of education a State university was projected as the crown and completion of the system. At that time the differentiation of education into great spheres or divisions of subject matter was not foreseen in any of the States, and it was natural and perhaps inevitable that inharmony should arise with the founding of other institutions to care for the constantly enlarging demands. While theoretically and historically a State university may represent the culmination of the State system, practically the fields of all State institutions are determined by the successive acts of the legislatures.

There is marked tendency in all States to bring about a parity between the institutions of higher education, expressed in like or equivalent entrance requirements, in comparable educational standards and in equality of standing on the part of the staffs. In some States the effort in higher education is concentrated in one institution, known as the State university, in which all subjects are at once on a parity. In those cases in which the effort is distributed in

separate institutions the different subjects may, nevertheless, be on a parity, and the institutions may be conceived as one university separated into its parts, or the different parts may be recognized in fact, if not in name, as separate universities, each covering the field assigned to it. To one part in the State organism of higher education may be assigned all the liberal arts, the so-called learned professions and their adjuncts; to another may be assigned the applied sciences, mechanic arts and engineering, agriculture; to another the training of teachers. It remains for the State to define the fields of each in consonance, so far as necessary, with Federal statutes, and no one of the parts or institutions may assume the entire field to itself. This much must be granted before there can be a real harmony in any State.

Nor can the intention in the different parts or institutions be longer held to give one part superior standing or merit or to separate it into an educational class by itself. Education in terms of the applied subjects is as truly education as that in terms of other subjects, no less and no more if the teachers are as well trained, the institutions as well equipped, and the work as well done. The distinction in educational results between these complementary lines of effort is now happily vanished. Accepting this parity places a State in readiness for a harmonious development of its institutions.

The particular factor that has introduced the inharmony into many of the States is the rise of the land-grant college. In about half the States this institution is a part of the State university. In these cases the difficulties are now reduced to a minimum, while in some States they have been practically eliminated. In the States in which the land-grant college is separate the conflicts and duplications are naturally most marked. At one time it was thought to be the wisest policy to separate the institutions, because their fields of work were supposed to be incompatible, but at present, when all institutions of higher education are so rapidly expanding, there is widespread feeling that the land-grant college is best united with the university or incorporated into it. When a harmonious State procedure has been devised, however, there may still be certain very marked advantages in the separation. At all events, it is the responsibility of the State in such cases to make a coherent plan and to prevent conflict. This is now the major problem in educational administration in the United States, but it ought not to be difficult of solution if the adherents of the different institutions once accept the principles just stated. The conflicts between the different kinds of institutions result in large part from an attitude of mind.

Mere duplication of courses of study may not be any more disadvantageous or more to be deplored between two institutions than between the parts of one institution which is the size of the two. As

will be pointed out presently, the cost to the people may not be increased. Two or more State institutions of the same grade, but with different fields, may, indeed, produce a most wholesome stimulation, if they do not inharmoniously overlap, giving to the State a spirited and progressive development, preventing ingrowing, and separating its student body into groups small enough for the best educational results. The different faculties, working under separate administrations and developing in somewhat unlike directions, may add very much to the achievement of the State.

In dealing with the problems of duplication as manifested in the practice of the Iowa State institutions the commission has been guided by what may be described as the principle of "major and service lines" of work. In accordance with this principle, which is implicit in the considerations adduced above, each State institution should have assigned to it certain major fields which it may be expected to develop to their fullest extent. Agriculture at the State college of agriculture and mechanic arts is such a major line. Latin, German, French, history, political science, psychology at the Iowa State University are such major lines. Service lines are such subordinate subjects as are essential to the proper cultivation of a major line. The amount required is generally not very large. English is such a service line for engineering and agriculture at the State college. Institutions may well overlap as regards the relation of their service lines to one another and more particularly as regards the relation of their major to their service lines. English is a major line at the State university, a service line at the State college. But there should be no material overlapping of major lines.

In many parts of the educational field such a division affords a rational and practicable principle of administration. Between the State university and the State college this division would at present reserve as major lines to the institution at Ames agriculture, veterinary medicine, home economics, and certain departments of engineering to be later determined. It would make all other subjects at Ames service subjects, in no case to be developed beyond the point at which the needs of the major subjects are supplied. In the actual working of this principle it would result that a moderate amount of elementary collegiate work might be given at the State college in the languages and humanities and certain of the sciences, but that they would presumably never go beyond these rudimentary stages. At the State university agriculture and certain fields of engineering, if cultivated at all, would in the same way have a place only as service subjects contributory to the major lines allotted to the institution.

Certain subjects do not fall readily into line on such a principle of division. Chemistry, for example, has an obvious place at the State

university and also at the State college. Even aside from "chemical engineering" as such, chemistry is involved in many engineering processes and problems to a degree absolutely demanding its presence at the State college and making it practically difficult to determine to what extent it is merely a service subject and to what a major line. This embarrassment regarding chemistry is even greater when certain agricultural problems and the work of the experiment stations are taken into account.¹ Physics, zoology, bacteriology, and botany also present similar perplexities.

It seems to the commission that the detailed adjustments of these cases of overlapping, once the main principle has been accepted, are all obviously capable of amicable settlement by means of a conference consisting of some convenient number of representatives of the faculties of the institutions affected (perhaps five from each), elected by the faculties, and sitting with a committee of members of the State board of education. Such a conference might meet at stated periods, perhaps annually, to consider and adjust any difficulties that may arise from time to time. Meantime the principle of the major and the service lines will automatically settle the status of by far the larger number of subjects and forthwith determine whether in a particular institution they shall be developed beyond their elementary stages.

It may be properly remarked at this point that the oft-raised objection to the alleged exorbitant cost of duplication when the same subject is taught at two State institutions is largely specious. It costs no more to teach two sections of English at Ames and two at Iowa City than it does to teach four sections at Iowa City, assuming that the instructors are paid at the same rate in both places and that the size of the classes is kept constant at the point of maximum instructional efficiency. The overhead charge may be somewhat larger when the work is done at two places, but this is not necessarily the case. In any event the main objection to duplication of work in State institutions like those of Iowa is not expense, but the stimulation of unwholesome competition with all its evil consequences.²

Once this principle of major and service lines is adopted, the whole situation clears up not only as regards intramural work, but also as regards extension work. An institution would be permitted to do extension work only in a major line. This itself would avoid the duplication and overlapping now threatened, and if the safeguard elsewhere recommended (see p. 77) of an annual conference of the

¹ For a further discussion of chemistry, see p. 69.

² The relations of the State teachers college to the State university and to the State college have elicited much less public comment than the relations of the latter two institutions to one another, in spite of the fact that at present the liberal arts work at Cedar Falls and at Iowa City squarely and unequivocally overlaps.

extension officials of the several institutions is provided, there need never arise any serious problem of maladjustment.

The commission is of the opinion that in a Commonwealth with the geographical, economic, and social characteristics of Iowa there might well be justification for several State institutions of collegiate grade in different parts of the State; that so far as concerns strictly collegiate work, there is no very grave objection to be urged against the present practice of offering such work in three different places, although the justification would be greater if the three were in more widely separated localities, and, as indicated elsewhere (see p. 54) the wisdom of continuing the final two years of work at the State teachers college is questioned. But the commission is unable to see that there can in the last analysis be any justification for sweeping duplication in the range of advanced and professional work. It would certainly strike every unbiased observer as absurd to urge that there should be two medical schools conducted by the State at different points. It would seem equally absurd to conduct two law schools. Neither the size of the State nor the educational needs of that portion of the country in which the State of Iowa is located can possibly be held to justify such duplication. Abundant expert opinion upon this matter is available in the actions of the controlling authorities in charge of medical and legal education in this country. Considered strictly on its merits, there seems to be no more *prima facie* justification for two engineering schools. Indeed there are certain branches of engineering work which ought not to be undertaken at all in Iowa. Marine engineering, for example, surely has no place in an inland agricultural community. The theory that a State is under obligation to give instruction in every field of learning is regarded as fallacious, and each new undertaking of an educational kind ought to be subjected to the critical scrutiny of disinterested experts.

The commission is of the opinion that the continuance of the two schools of engineering as at present organized is uneconomical and indefensible, especially in so far as it concerns the development of upper-class and graduate work. At least three methods of readjustment are possible. (1) The horizontal, by which one school would become a strictly graduate institution and the other school an undergraduate institution. This would accord well with the mature judgment of a large section of the engineering profession that a bachelor's degree or two or three years of the work in liberal arts and science leading to such a degree, is the best possible foundation for the technical training of an engineer. In the judgment of the commission, this method is not at present applicable to the Iowa situation. Unless the principle were applied drastically, so as to require

a bachelor's degree for entrance to the more advanced of the schools, the difficulties of the present academic situation would not be materially lessened, and the possible overlapping in the field of extension work would require altogether separate consideration and treatment.

(2) The union of the two schools in one place under highly expert direction. The commission is unanimously convinced that this is the method by which engineering work under State support in Iowa could best be maintained and developed. No other method will so certainly insure the permanent elimination of the causes of friction, irritation, unwholesome competition, and wasteful duplication of high-class men and equipment for advanced work. It is scarcely conceivable that the State, if it did not now have two schools of engineering, would consider the establishment of more than one. The commission is not unmindful of the weight of arguments which may be adduced in support of the unification of this work at the State university, where it would enjoy the stimulation of other high-grade professional schools, where it would have a strong backing in the pure sciences and helpful contact with the liberal arts, and where it could be maintained on a high level, free from the tug of artisanship. On the other hand, the commission does not forget the fact that the land-grant colleges are quite as much bound by their essential character to develop mechanic arts (usually interpreted as synonymous with engineering) on an equal footing with agriculture. In view of this necessity for the joint development of agriculture and engineering, the commission believes that such union of schools, if it could be accomplished, should be made at the Iowa State College.

(3) If this second method is adjudged impracticable of application, considering the present condition of institutional and popular sentiment in Iowa, the commission recommends that a definite vertical (or topical) division of engineering should be carefully worked out by the board of education in conference with a small group of expert engineers, wholly unconnected with either institution, each of whom should be a member of one or another of the four American societies of civil, electrical, mechanical, and mining engineering. All four societies should be represented. When once this division has been determined, it should be rigidly enforced by all the educational authorities concerned. Perhaps this could be accomplished under a single dean of engineering for the two institutions, supplemented by unremitting detailed examination on the part of the board of announcements of engineering curricula and courses. In such a division it appears likely that the work in municipal and sanitary engineering, hydraulic engineering, and perhaps structural engineering, should be conducted at the State university, and that the work in highway, transportation, electrical, and mechanical engi-

neering should be developed at the State college. The necessity for work in mining, ceramic, or chemical engineering, and the location of this work, are matters for future consideration, in view of recommendations made elsewhere in this report and the possible future report of such a commission of impartial engineering experts as is suggested and urged.

Whether the work in domestic science can be regarded as up to the present time sufficiently differentiated on professional lines to warrant recognition as presenting a problem similar to that of medicine, law, and engineering may perhaps be questioned. Certainly the work as at present conducted relates itself as a service subject to a much wider range of nonprofessional interests and is as yet in too formative and unstable a condition to justify dogmatic assertion. The commission discusses this subject at length, however, and makes certain recommendations in Chapter VIII.

The position of music may serve to raise a similar question. Its development as a major line should unquestionably occur at the State university. It may well remain as a service line at the other State institutions.

With regard to the proposed discontinuance (beyond the second year of the professional work) of the work in liberal arts at teachers college, Cedar Falls, the commission is disposed to urge the wisdom of this on several grounds. In the first place, it seems reasonably clear that the institutions at Ames and Iowa City are at present abundantly able to care for all students who may be expected to seek the bachelor's degree in a State institution in Iowa. If the State wishes a third institution of a collegiate grade, it ought to be in the southern or western part of the State. Moreover, as has been clearly shown in another section of this report (Chap. I), the private institutions in the State are able to care for a very large proportion of the students who wish this degree, and between them and the other two State institutions all such students can be readily cared for. In the second place, the commission feels certain that at present, at least, the atmosphere of the institution is not unequivocally collegiate, and that students who now receive training there for the bachelor's degree are likely to miss certain valuable elements in such training. This opinion is based partly on the impression which one who has visited many institutions easily gets from even a brief contact with the situation, partly on consideration of the methods of class instruction, which are on the whole dominantly those of the high-school and junior-college type, and partly on the fact that the presence of a very large group of subcollegiate students inevitably affects the general intellectual maturity and academic tone of the work. In the third place, the amount of work now offered as of third and fourth year college grade is relatively small and may be regarded as only barely

sufficient to round out a senior-college curriculum. A comparison of the program of courses at the State teachers college with that at the State university or at the State college of agriculture and mechanic arts will confirm this statement. To be sure, a comparison of some of the weaker sectarian colleges would not be unfavorable to the teachers college, but this is a comparison which a State institution would hardly wish to employ.

Under these circumstances the commission feels that the expenditure of money and energy represented in keeping up the last two years of collegiate work at Cedar Falls is probably not to be justified on its merits. The commission would not be understood in this opinion as intending to depreciate in any way the seriousness of the work offered, nor the devotion and earnestness of the staff of instruction. The professional work done here is creditable to the State and to the authorities of the school, but a division of energy such as is suggested would in the long run contribute to the efficiency of the State institutions as a whole. Such a program, if carried out, would not in our minds imply the reduction of the budget of this institution. Quite the contrary. It would mean concentrating all resources on the earlier portions of its work, where at present its greatest obligation is found, and where there are certainly at present massed the great majority of its students, as Tables 4 and 5 on page 56 will indicate.

More particularly the commission would call attention to the desirability of greatly enlarging the facilities for practice teaching at teachers college. The present practice school in immediate connection with the institution is already overtaxed, and the commission finds it difficult to believe that the facilities offered in the town of Cedar Falls are at present wholly adequate. The commission is quite clear that the general attendance at Cedar Falls ought not to be permitted to expand until thoroughly satisfactory provision is made for practice teaching.

If the board and the people of the State are disposed, on further consideration of the question, to agree with the commission that the appropriate function of the State teachers college is the preparation of teachers for rural and graded schools, and not the preparation of high-school teachers, or the granting of the bachelor's degree for courses in liberal arts, the commission is strongly of the opinion that the future development of the institution on somewhat different lines is desirable. It recommends, therefore, that the courses for elementary teachers, both rural and urban, be made three years in length, substantially one-third of the time to be devoted to professional subjects, and the rest to work dealing with the subject matter of instruction. Entrance to those courses should, as soon as possible, be based squarely on high-school graduation. Such courses should

been recognized in the legislation providing for the addition of a year of normal training in certain high schools. The commission is fully cognizant of this situation, and its suggestion regarding teachers college is therefore in no sense directed to any lessening of the resources of the State in this direction. There should be additional normal schools established, in parts of the State remote from Cedar Falls and probably preferably in the southwest and northwest divisions of the State. If such normal schools were brought into intimate contact with the normal training high schools, and with the movement for the development of junior colleges in connection with the strong high schools which has gained great headway in many parts of the country, these several institutions could be made to reenforce one another in a most helpful way. An appreciable amount of serious collegiate work could be offered as a basis for professional training in these junior colleges on high-school foundations; and the normal schools, if brought into administrative contact with them, could furnish not only a spirit of professional standards and a corresponding stimulation, but could also be used to develop practice teaching work in various portions of the State now wholly unprovided with such facilities. A similar relationship could be cultivated between the normal schools and the normal training high schools.

In this connection attention should be called to the possibility of adding a group of strong men to the faculty of the teachers college (and to other normal schools, if established), who might give one-half of their time to instruction and the other half to service as members of the staff of the State superintendent of public instruction, supervising the work of the normal training high schools. Such an arrangement would greatly enhance the solidity and efficiency of the normal training courses and would bring both the State superintendent's office and the normal schools into most helpful organic connection with these high schools. Any measure that will improve the supervision of the training of rural teachers and that will put at their disposal added opportunities for practice teaching ought to be energetically fostered.

The foregoing discussion and the recommendations of the commission in this and subsequent chapters are based on the assumption that all three institutions are to be continued without essential change of character. The acts of the legislature making appropriations for the continued expansion of the institutions, including the development of graduate work, have established a presumption in favor of this interpretation.

The commission desires to call attention to one other aspect of the situation, however, which ought not to be overlooked. The college of agriculture and mechanic arts was created in response to the

Morrill land-grant act of 1862. In return for certain subsidies granted by the Federal Government at that time and at later times the State assumed the obligation to carry on instruction in agriculture and mechanic arts. Earlier in this chapter the commission expressed a belief in the substantial educational equivalence of the work carried on by the two types of institutions, the land-grant college and the State university. If this parity exists in other States, it certainly exists in Iowa. The commission is also about to recommend that graduate instruction and research work of the most advanced university type be encouraged at the Iowa State College. Nevertheless, such development of advanced work should relate itself exclusively to the limits established by the professional aims peculiar to the institution. This question is discussed at greater length in Chapters IV and V.

In closing this portion of the report, the commission desires to reiterate its conviction of the importance of applying strictly the principle of division advocated above to the work of the three State institutions. The State is probably rich enough to allow all of its institutions to develop as rapidly as the demands of students for instruction will warrant without regard to possible duplication of offerings. Indeed, the drawback to this policy is not primarily a financial one. It is rather that such a course will inevitably perpetuate intolerable mutual jealousies and antagonisms, tending to defeat all unity in the program of State education.

The five chapters following deal in some detail with various phases of duplication.

SUMMARY OF RECOMMENDATIONS.

1. The adoption of the principle of "major and service lines of work" at the three State institutions.

2. The creation of a conference consisting of members of the faculties of the institutions and the State board of education to adjust questions of overlapping not automatically determined by the establishment of major lines for each institution.

3. The readjustment of the work in engineering at the State university and the State college, according to one of three methods:

- (a) A horizontal division, assigning graduate work to one school and undergraduate work to the other.

- (b) The union of the two schools at one place.

- (c) A vertical division of work, assigning some branches of engineering to one institution and some to the other.

4. The discontinuance of the last two years in liberal arts at the Iowa State Teachers College, with suggestion of three-year non-degree courses for rural and grade teachers.

5. The enlargement of facilities for practice teaching at the State teachers college.

6. The establishment of additional normal schools.

7. The addition of men to the faculty of the State teachers college, to give half of their time to instruction and half as members of the staff of the State superintendent of public instruction and the supervision of work in the normal-training high schools.

Chapter IV.

GRADUATE WORK.

Next to engineering the field of graduate work undoubtedly offers the greatest area for the development of unwarranted and expensive duplication. The State board's request that the commission investigate graduate work indicates that the board has appreciated the danger which lies in this direction. The subject has seemed to the commission second in importance to none of those upon which advice has been asked. An account of the actual present status of graduate work at each of the institutions is submitted herewith and the attempt is made to point out how the principles developed in the preceding chapter may be applied to the avoidance of serious duplication and the friction of competition.

Graduate work of a high character is, and ought to be, carried on with increasing efficiency at both the Iowa State University and the Iowa State College. At the Iowa State Teachers College, the degree of master of didactics is conferred for a professional course representing 45 term hours. This, however, does not constitute really a graduate school or college, but is work offered chiefly during the summer session for college graduates who wish to take up the study of professional subjects. It is more nearly an extended undergraduate course, with the requirement of a thesis, than organized graduate work based upon an undergraduate foundation.

STATE UNIVERSITY OF IOWA.

The graduate college of the State university grew out of a standing committee, first appointed in 1893, to define the terms for granting master's degrees. Work leading to the doctor's degree began in 1898, and the graduate college was formally instituted in 1900. Since that time it has made steady advance in organization and in standards. The commission commends cordially the general sincerity and progressiveness of the graduate work done at the State university, especially in certain thoroughly organized departments like education, philosophy and psychology, history, and political science.

The State university makes a distinction between the admission to the graduate college and admission to candidacy for a degree, and

endeavors to determine each case upon its own merits. This is in accordance with the common practice of graduate schools by which persons holding degrees from acceptable colleges are admitted probationally, and later, when they have demonstrated their capacity for work in the majors and minors selected, are admitted to candidacy for a particular degree. A student coming from a college about which there is question is tested by departments as to his major work only, but no test seems to be applied in regard to the general soundness of his training or the value of his minor work. The registration of students in graduate courses for the summer session appears to be handled more loosely than in the regular session, and the records of such students are in a less satisfactory condition. Neither in the regular session nor in the summer session does it seem to be necessary for a student registered in the graduate college to take any course designed for graduates only. A student who desires to enter the graduate college and take work only in a field for which he has had no preparation in his undergraduate work should be registered as an undergraduate, rather than a graduate, student until he is ready to carry advanced courses or courses for graduates only. The commission suggests the adoption of a rule by which no student may have graduate status unless a certain specified proportion of his registration is in courses for graduates only.¹

A candidate for the master's degree is usually required in this graduate school, as in nearly all the strong graduate schools, to do work in residence during one collegiate year of approximately 36 weeks. The State University of Iowa, in common with some other institutions, accepts resident work in four summer sessions of 6 weeks each (24 weeks) as a minimum for satisfying this requirement, but students have usually been required to prepare theses outside of this residence period. This is in contrast with institutions like the University of Chicago, which makes precisely the same residence requirement of students working in the summer as of other students. The State University of Iowa has, however, worked out a plan for supplementing in some degree the work of the summer session through "projected registration," by which a student who has been in residence in graduate status at the university for at least one sum-

¹ The State university has one almost unique group of graduate students, those who are candidates for the M. S. in medicine, who have been recommended by the faculty of the college of medicine upon the basis of an M. D. degree. This represents the extreme of tolerance, since the announced requirement for admission of students to candidacy for such a degree is a satisfactory high-school course, plus a four years' course in medicine. The latter may be taken in a medical school which does not require any college work for entrance. The university announces no list of approved medical colleges whose graduates may be thus received. The work for the degree appears to be done mainly in absentia by practicing physicians. Two or three persons per year for about 10 years have been granted this M. S. degree. The registration for this degree has fallen off, however, so that the dean of the graduate school reports only one student so registered in 1915-16.

mer session may do work in absentia according to a plan agreed upon with some authorized instructor. Credits earned through projected registration may equal those previously earned in the same subject in residence. In a bulletin, the university states "that projected registration does not operate to reduce the residence requirement for a master's degree [but] may, however, operate to reduce materially the time requirement for earning the doctorate." The department of education is the one chiefly concerned with projected registration, since many of its students in research find their problems outside the campus and in connection with their professional duties. Some 12 or 15 students are thus registered and working in cooperation with certain departments upon problems for which they will later receive credit. Projected registration might be called the temporary substitute for the fifth or sixth summer session of work as a part of the requirement for the master's degree.

Graduate work is offered under 25 departmental headings, including engineering, archæology and the history of art, home economics, histology and embryology, and five other departments in the college of medicine. The apportionment and scope of the graduate work in the university seems to be variously determined, by the graduate faculty (all full professors giving graduate work), by the graduate council of seven men (one elected by the graduate faculty for a seven years' term), or by the quality of leadership in particular departments. Individual instructors get their authority to give graduate courses from the departments. There is consequently a wide difference in the amount and spirit of graduate work in different departments. In one department, for instance, there are 16 persons, of whom only 1 is a full professor. It was stated to the commission that but one of these was distinguished for the published results of his research, though several others are directing thesis work or engaged in "creative work" or in various kinds of learned activity, which are regarded as on the same basis as research.

It is clear to the commission that the university can not do equally strong work in all the departments announcing graduate courses, even if an equal number of graduate students should appear for each department. Like every other university which does graduate work, it must choose which departments shall be encouraged to undertake work of an advanced sort, leading, for example, to the doctor's degree. This determination should be made by a body competent to express the judgment of the institution as a whole, and the expression of this judgment should result in the formulation of a system or policy for the best utilization of such portions of the energy of the institution as may be devoted to graduate work. The commission did not get the impression that the State university was thus developing its graduate work. Too much appears to be left to

the will of the head of the particular department as to whether his department shall give courses, for example, which will lead to the doctor's degree. By vote of the graduate faculty, or, perhaps, better, of the university senate, a body which has no "board" on graduate work and which seems to fall short of realizing its possibilities, certain departments should be especially encouraged to develop the most advanced courses of instruction and research, by special care in selecting new men, by the encouraging of the promising research workers already on the staff, and by generous appropriations in the university budget. In this way the prestige of the university will be more enhanced than by trying to keep all departments on an even front. Fluctuations in the strength of departments are bound to occur with the coming and going of strong, productive men, but the accumulation of library and apparatus will fluctuate much less under the policy here suggested. By way of illustration, the university is peculiarly fitted to carry on the finest sort of graduate work in geology; it is already strong in physics, psychology, and education; it ought not to attempt, on the other hand, to build up courses in entomology, agronomy, or plant breeding.

IOWA STATE COLLEGE.

The graduate division of the Iowa State College should, in the judgment of the commission, develop naturally and properly out of certain sections of the undergraduate work. It should follow those major lines of work for which the institution is constituted. Its graduate work, therefore, should be supplementary to that of the State university, and coordinate with it, but without any such overlapping as is permissible and perhaps desirable in the first two years of undergraduate curricula in certain courses. Wherever this institution or the State university diverges from this principle, it should be brought back by the board or by some other correlating agency.

The graduate division of the State college, which was established in 1913, offers major and minor work for the master's degree in 18 subjects, "with special application to the industries." Aside from those subjects which are unquestionably related to the major lines of agriculture, engineering, etc., there are included in this group, mathematics, economics, geology, chemistry, and zoology. The subjects or departments in which the degree of doctor of philosophy may be taken are decided upon by the faculty of the graduate division, subject to the final determination of the matter by the board of education. At present they are the following: Agronomy, animal husbandry, bacteriology, botany, chemistry, dairying, geology, horticulture, and zoology.

The conditions upon which professional degrees in engineering are granted are: (1) Graduation from a four years' curriculum in engineering, one year of residence study, and one year of professional experience, and the preparation of a satisfactory thesis; (2) graduation from a regular four years' curriculum in engineering, five years of professional experience, and the preparation of a satisfactory thesis; (3) graduation from a regular five years' curriculum in engineering, one year of professional experience, and the preparation of a satisfactory thesis. The degree of master of agriculture requires graduation from a four years' curriculum, five years of experience in practical or professional agriculture, and the presentation of a thesis. The combination degree in agriculture and engineering is granted by the cooperation of the two divisions.

Admission to the graduate division, of which the president is the acting dean, presupposes graduation from a college or university of approved standing. In addition, evidence of the necessary prerequisite training for the course to be pursued is required, since it is quite possible that a graduate from a narrow arts curriculum would find himself wholly unprepared to undertake graduate work in a subject like crop production, in which the college offers work leading to the degree of doctor of philosophy. For the master's degree, one year of work in residence and the completion of 30 hours are ordinarily required. Of the 30 hours, 20 must be, and all of the 30 may be, in the major subject. The catalogue states that major work will ordinarily be restricted to graduate subjects. Under certain restrictions, one-half of the work required for the master's degree may be done in absentia. In these cases, the residence work may be accomplished by three summer sessions of six weeks each. The requirements for the degree of doctor of philosophy follow the usual announcements in such matters, except that of the three years of graduate work required only one appears to be necessarily a year of residence work, and that at the State college.

An examination of the records of graduate students admitted during 1914-15 indicates an unusually generous judgment of the sufficiency of the curricula of several institutions from which students have come, as a basis upon which to build graduate work. It is evident to anyone who knows much about these institutions that their curricula can not be the equivalent of those of the Iowa State College or of "other colleges and universities of approved standing." In other words, it is educationally impossible to combine in the same graduate courses, without sacrifice of standards, students who have had seven or eight years of work above the eighth grade and students who have had six years of work above the eighth grade. The larger number of students registered in the graduate division hold degrees from Iowa State College or from other institutions of unquestioned

rank, like the State University of Iowa, the University of Nebraska, Grinnell College, or the Ohio State University. Mixed in with these are a considerable number of students from institutions which have hitherto required for admission only one or two years of high-school work, perhaps 10 units. Seven students from Oklahoma Agricultural and Mechanical College appear in the enrollment, two from Kansas State College, two from Clemson College (the South Carolina Agricultural and Mechanical College), three from Oregon Agricultural College, and one from Mississippi College of Agriculture and Mechanic Arts. Some of these students came directly to Ames after their graduation.

The largest number of graduate students in any one department is in agronomy. In 1914-15 there were in residence 10 students; 1 each in soil fertility, soil physics, and farm management; 3 in soil bacteriology; and 4 in crop production. In 1915-16 there were 9 students; 1 in soil fertility, and 4 each in soil bacteriology and crop production. The men for 1915-16 were selected from some 35 or 40 applicants. Among those selected were graduates of Texas Agricultural and Mechanical College, Oklahoma Agricultural and Mechanical College (a bachelor of science, 1915), and Clemson College.

The commission is of the opinion that much greater care should be exercised by the graduate division of the State college in admitting students from institutions whose work is not based squarely on the requirement of a standard high-school course, representing at least 14 units. In justice to the Iowa State College it should be said that it is not alone in this practice of objectionably lax admission to its graduate school of students coming from agricultural and mechanical colleges which have not yet seen their way clear to the enforcement of standard entrance requirements. The continuance of this practice is bound to reflect upon the standards of Iowa State College, in that students who transfer from its graduate division to other graduate schools, like Chicago or Cornell, will be very likely to be discounted in their credits earned at Ames.

Certain of these institutions have, to be sure, recently raised their entrance requirements. Students graduating before 1914, however, entered before these improvements in standards.

The commission recognizes the difficulty which now exists and which is bound to continue in defining the scope and upreach of the graduate work which should be carried on by the State university and the State college. As a means of making the adjustments that will be necessary as long as the departments in these institutions are directed by strong, vigorous, resourceful, ambitious, scholarly men, the commission recommends the creation by the board of education of a standing committee on graduate work to be composed of two of its own members and three members each from institutions

giving graduate work, the latter to be elected for a term of years by the graduate faculty in every case. It is further recommended that this committee be granted power to review the present offerings of graduate courses, to make such definitions and adjustments between institutions as may be required in order to secure conformity to the principle of major lines enunciated elsewhere, and that no institution under the authority of the board shall inaugurate any new lines or announce any new courses without the approval of this committee in advance. Through such a committee the graduate work of the various institutions will be subjected to at least an annual review and discussion not by an outside body but by men who are actively engaged in building up graduate and research work in the State institutions. It is conceivable, for example, that such a committee would decide that graduate work and research in such subjects as history, modern languages, political science, psychology, mathematics, and education ought to be developed only at the State university; that such subjects as agronomy, animal husbandry, horticulture, and entomology should be developed only at the State college; and that certain specified branches of such subjects as chemistry, botany, zoology, and bacteriology may be properly developed in one location or the other, but without duplication.

In making this recommendation, the commission would make it perfectly clear that the purpose is to promote, rather than limit, the development of graduate and research work, which shall be fostered by the combined wisdom of the great institutions of the State and backed by the resources of a rich Commonwealth.

SUMMARY OF RECOMMENDATIONS.

1. The encouragement of the development of graduate work at the Iowa State University and the Iowa State College of Agriculture and Mechanic Arts along the major lines of the institutions.
2. The adoption of a rule by the university according graduate status to none but students having a definite proportion of their registration in courses for graduates only.
3. The determination by the university senate, or some other representative body, of the departments to be encouraged to develop graduate courses.
4. The exercise of greater care by the graduate division of the State college in admitting students from other institutions to graduate standing.¹
5. The creation of a standing committee on graduate work, to consist of two members of the State board of education and three members each from the institutions giving graduate work, the latter to be elected for a term of years by the graduate faculties.

¹ An announcement now coming out provides for exclusion of graduates of low-grade schools.

Chapter V.

LIBERAL ARTS WORK IN THE IOWA STATE COLLEGE.

The commission has been asked by the State board of education to investigate the following question: "Does the liberal arts work offered at the Iowa State College of Agriculture and Mechanic Arts come within the proper scope of that institution when considered in connection with the other educational institutions of the State?" In the judgment of the commission, the issues raised by this question, as by the question relating to graduate work, are vital. They lie at the very root of the State's higher educational problem. Special attention has, therefore, been given to the subject, and a detailed discussion of principles and practices is presented in this chapter and in the appendix.

The necessity of introducing some courses in liberal arts and science subjects into the curricula leading to the various degrees at the Iowa State College will not be disputed. While the work prescribed for degrees in agriculture, engineering, home economics, veterinary medicine, etc., is more or less technical in all the State universities or land-grant colleges, such work is nevertheless undergraduate, and, with the possible exception of veterinary medicine, not professional in its nature. It is now upon a scientific collegiate basis, rather than upon a mechanic arts or purely vocational basis. The first two years of the undergraduate curricula in agriculture and engineering in nearly all of the strong universities of the United States and in specialized institutions like the New York College of Agriculture in Cornell University and the Massachusetts Institute of Technology are largely made up of work in the fundamental mathematical and scientific subjects, such as botany, chemistry, mathematics, and zoology, in combination with varying amounts of English composition and literature, history, modern languages, economics, political science, and sociology. It happens not infrequently also that general or survey courses in the latter group of subjects are put into the last two years of the undergraduate course. It is of the greatest importance in this connection to keep clearly in mind the distinction, which is elaborated elsewhere in this report, between the major lines of work in an institution like the Iowa State College, and the group of liberal arts and science subjects here under discussion. The latter are and ought to be auxiliary or service subjects, which serve either as the foundation or as buttresses for the main structure.

The principle on which liberalizing subjects, whether humanistic or scientific, should be included in the schedule of work of an institution organized by the State for the express purpose of developing

curricula in agriculture, engineering, etc., may be stated thus: Only such liberalizing subjects should be incorporated in the offerings of the institution, and only in such amounts, as will wisely reenforce the technical or semitechnical specialized curricula for whose development the institution was constituted. In all institutions like the Iowa State College attempts to develop courses in these subjects for themselves are certain to be made. Strong teachers will naturally urge elaboration of the subjects in which they are interested, sometimes in disregard of the purposes of the institution as a whole. Courses may even be offered as a means of holding students already registered who have changed their professional or academic intentions. If there be such students in the institution, they should, of course, be directed to seek instruction in other institutions emphasizing other curricula.

It is the commission's opinion that all these attempts should be checked by the governing board, even though the plea be made that the cost of such tentative development is small, or that the number of students is not large, or that a *local* demand is to be met. To take specific examples, the development of extended courses in psychology, in the history and theory of education, in political science, or in advanced mathematics, in the Iowa State College should be authorized by the board only upon proof that such courses are indispensable for the purpose of supporting regular work in the major lines already mentioned. The problem of the relation between undergraduate work and graduate work in the different departments in the Iowa State College is more fully discussed in another place. If the principle of the establishment of major lines of work, forming the main structure in the curricula of the State institutions, be accepted, another principle will be at once clearly defined. All departments of an institution must be treated alike in the matter of thoroughly adequate provisions of men and apparatus with which to do the work required by the purposes of the college. All departments need not be treated alike, however, in facilities for expansion and outreach into graduate courses and research. A service department is a service department and not a major department, and it must so remain, if waste and unwarrantable duplication of effort and expenditure are to be avoided.¹

¹ Certain departments, like chemistry and botany, by their intimate and organic relation with the research work of experiment stations, will need to develop specialized forms of work in the direction of major lines; for example, soil chemistry, organic chemistry, plant pathology, and dairy bacteriology. But in all such cases a clear differentiation of departmental functions should be enforced, for the State does not need two groups of research men and two research laboratories for plant pathology or dairy bacteriology. It is even conceivable that a strong man in one of the other State institutions might develop his talents along one of these lines to a point which would make it desirable to transfer him to the State college staff instead of continuing his work on the old location.

Courses in practically all of the subjects referred to above are taught in the Iowa State College and embodied in widely varying proportions in the curricula leading to different degrees. Some of them, for example, English and mathematics, are required of nearly all students in agriculture, engineering, and home economics. The commission finds no evidence that the number of instructors in these fundamental subjects, as taught in the first and second years, is too large or that the services of these instructors are uneconomically utilized. Furthermore, the number of semester hours required in these subjects in the curriculum of the first two years does not appear excessive or ill balanced. Work in English composition, elementary mathematics, and like subjects for students of the first and second years, if the number of students in each place exceeds 200, is probably carried on just as economically and just as effectively in two or three places as in one. Two hundred students will keep fully occupied two instructors in first-year mathematics, two in chemistry, and two in rhetoric; similarly, laboratory space for 600 first-year students in chemistry and zoology would not be greatly economized if work were to be done in one place, as contrasted with a more or less equal distribution of it in three places. In other words, the commission finds no evidence of unnecessary or wasteful duplication of work of the first and second years in the three State-supported institutions in Iowa. Each has its corps of instructors for these years fully occupied, and pressure upon its space for the work of these two years is not below normal.

Substantially the same thing is true of the essential service courses in the third and fourth years in the curricula in agriculture and home economics in the State college. The prescribed courses in such curricula, in mathematics, physics, chemistry, botany, zoology, English, economics, education, and psychology is warranted by the normal needs of these groups of students. In order to meet the requirements of the State law in regard to the certification of teachers, students who wish to be prepared upon graduation to teach agriculture, home economics, and manual training must have had instruction in certain prescribed subjects. The obligation to give this instruction can scarcely be called optional for the institution unless some device is worked out by which a student may obtain these courses elsewhere through an organized plan of inter-institutional movement of students. Such plans are not yet common in America.

In the more advanced and specialized courses the commission finds considerable duplication of courses offered elsewhere. Much of this seems unwise and unwarranted when judged by the principle announced by the college as covering its service departments of instruction. The commission finds an illustration of this tendency in the

department of chemistry. The college must maintain its undergraduate work in chemistry upon a high level; it must provide every necessary facility for the chemical side of the work of the agricultural and engineering experiment stations. Undoubtedly it must also develop certain lines of graduate work in chemistry connected with the agricultural experiment station, which has a special obligation to the Federal Government and the engineering experiment station. It does not follow, however, that the college would be warranted in attempting to establish a great school of chemical instruction and research, covering every phase of the vast and varied subject. If the State is to support several departments in different institutions, it may well insist upon strictly defined specialized lines for each institution. Unquestionably the State college must undertake a great development of chemical research as related to agriculture, but the preparation of men to be research workers in numerous other branches of chemistry is not necessarily an obligation laid upon the State or upon this particular college.¹

The commission recommends a thorough-going revision of the announcements of this department and the elimination of all courses that are not strictly in conformity with the principle of the development of major lines, and do not directly reenforce the work of the experiment stations. An advisory committee of members of the American Chemical Society, who have no relation whatever to the State college and State university, could undoubtedly assist the board very materially in determining the lines of advanced work in chemistry which each institution should cultivate.

The charge has frequently been made and widely believed that the Iowa State College has endeavored to build up a curriculum in liberal arts and sciences leading to a nontechnical degree either in general science or in arts. The present president of the college and others in responsible positions disclaim in most explicit terms any attempt to build up such a curriculum. They insist that only such liberal arts subjects and only so much of such subjects will be taught by the institution as will be needed for a properly balanced and enriched curriculum in agriculture, engineering, home economics, and veterinary science. While the commission accepts this statement as an accurate description of the present intention, there is some evidence that an attempt was made at an earlier period in the history of this college to formulate a curriculum which might have been described not inaccurately as a curriculum of liberal arts and sciences, even though it was not intended to have it lead to the degree of bachelor of arts. The commission found some conflict of testimony as to the

¹ For a comparison between the offerings in chemistry by the Iowa State College and by other institutions, see Appendix, p. 141.

definiteness and vigor of this attempt. Possibly part of the difference of opinion rose from the difference of concept as to what was meant by a general or a liberal arts course. Since both the humanities and the sciences are now accepted as proper liberalizing disciplines, the commission does not distinguish between a curriculum in which a student may major in geology or mathematics and receive a degree of bachelor of science in general science, and a curriculum in which a student may major in philosophy or economics. Courses offered in several departments in the general catalog for 1915-16 indicate a past or present ambition to expand certain subjects beyond the needs of the curricula in which they constitute a subsidiary element.

It is necessary, therefore, to examine the contention that all the work in liberal arts and pure science now offered is primarily subordinated to the interests of students taking one of the curricula leading to degrees in agriculture, engineering, home economics, etc. In place of the "colleges" commonly found in the larger universities, this institution has a grouping of departments designated as "divisions," for example, the division of engineering, the division of agriculture. It is evident that the division of industrial science is constituted in a different manner from the other divisions, and that the procedure of a student in this division, if not his original intention, is likely to differ quite markedly from the procedure of a student who enters upon the curricula in agriculture or engineering. The catalog for 1915-16, page 232, states:

The courses in industrial science are not "liberal arts courses." They are courses intended to fit the student for certain specialized fields of professional activity * * *. An opportunity is offered for the election of an amount of general work approximately equal to that allowed or required in other technical courses of the institution * * *. Neither are those courses to be regarded as *general science* courses, for as soon as the scientific and linguistic foundation of the freshman and a part of the sophomore year has been secured, the student is required to specialize in some science and to relate it definitely to its industrial and professional phases.

The division of industrial science includes the departments of—

Bacteriology and hygiene.	Mathematics.
Botany.	Military science and tactics.
Chemistry.	Modern languages.
Economics.	Music.
English.	Physical training.
History and psychology.	Public speaking.
Library.	Zoology.

Logically geology and physics should be here, but they are, as it happens, departments in other divisions.

In the division of industrial science there are four curricula leading to the degree of bachelor of science with major work in one of the following departments:

Bacteriology and hygiene.	Mathematics.
Botany.	Physics.
Chemistry.	Veterinary anatomy.
Economics.	Veterinary pathology.
Entomology.	Veterinary physiology.
Geology.	Zoology.

Special groups in this department are:

Applied botany.	Applied entomology.
Applied chemistry.	Applied geology.

Joint or five-year curricula are offered in chemical engineering, agricultural engineering, and home economics. A six-year combined curriculum with veterinary medicine is also provided.

The curriculum of the freshman year in industrial science "leading to the degree of bachelor of science (in some major science)" has no industrial subject whatever in its total of 34 or 37 hours, unless 2 hours of the industrial history of the United States or of the economic history of American agriculture be so characterized. In this respect the curriculum does not greatly differ from the curriculum in agriculture. In the sophomore year, 16 hours of "science electives" and 12 hours of free electives are included in the total of 36 hours. The only industrial subjects that appear here in the science electives are veterinary anatomy, veterinary pathology, and veterinary physiology. The major for the junior and senior years requires that at least 20 hours out of a total of 64 shall be chosen from the major subjects enumerated above.

From these statements it appears that a student in getting his bachelor of science degree might reduce the elements which are really industrial to a very low minimum. If his major were in economics, mathematics, or geology, he would have 2 hours of industrial subjects in the freshman year, none in the sophomore year, and a maximum of 24 in his junior and senior years, with a possibility of materially reducing the 24 with the approval of the proper authorities. This is not far from the substance of a curriculum in liberal arts and sciences. The distinction between a major in geology and a major in history is not material, if the principle of prescribed courses along major technological lines, in accordance with the purpose of the college, is accepted. While the curriculum does not permit a major in such humanistic subjects as English, modern languages, and education, each of these subjects may have a considerable representation through the free electives.

It does not appear that many of the relatively small number of students taking the degree in industrial science have been allowed to abuse the opportunities which exist for making extreme schedules.

In the following paragraphs the offerings of three of the departments included in the division of industrial science are analyzed with a view to determining how far they have conformed in their development to the limitations laid upon them as service departments subordinate to the major technological lines of the college. An analysis of the offerings of four other departments in the same division is given in the appendix, page 140.

An analysis of the department of English and the department of literature, which appear to be really one department, shows that the principle of subordination of the work of these departments to the major purpose of the college is well followed out. The unexpectedly large number of courses in these departments is due to the splitting up of the elementary work into courses which, in the main, duplicate each other, having slightly varied credit values for different groups of students—for example, those in home economics or in agriculture. In English 15 courses are announced, of which 1 set of 2 courses, with 3 credit hours each, is designed for agricultural engineers; another for agricultural students; still another, with 2 hours' credit, for women. The total offerings, including these duplicates, are 36 semester hours, or, eliminating duplications, 22 semester hours.

In literature an elastic scheme of credit is elaborated. Literature 1, for example, may be taken for 1, 2, 3, or 4 hours' credit. The maximum obtainable in the general courses is 14 hours. An unusual group is described as "Literature as related to technical subjects and courses." One of these courses is "The scientific age in literature." Others are "Literature of farm and community life," "Reading for children at home and at school," and "The farm library." The total offerings in this group in the department of literature are 18 semester hours. No courses open to undergraduates and graduates, or to graduates only, are offered in these two departments.

The announcements in the department of economic science ("Applied economics and social science") indicate a disregard of the sentiment which has kept English and literature purely service departments. Six courses, totaling 16 semester hours, are for undergraduates. Twenty-four courses, totaling 17 semester hours, are for undergraduates and graduates, including two "seminar" courses ("current events," "reading economic magazines"), and one in research, involving public utilities, speculation, and "various other problems and phases of social and industrial life." One course in thesis and research work is for graduates only. The head of the department states that each course is given a distinctly agricultural or engineer-

ing bent and that it justifies itself as a semitechnical or industrial course, as distinguished from a liberal-arts course. It is the opinion of the commission, however, that so large a number of courses is unnecessary for the support of the allied interests, and that the wide differentiation indicated by the titles just quoted scarcely represents present institutional necessities. The commission would point out that the importance of a very thorough training in the principles of economics for an engineer who wishes to do research work in railroad rates, or in municipal or financial direction of public utilities, does not constitute an obligation on the part of this college to give such instruction, merely because it maintains a college of engineering and an engineering experiment station. A student wishing to make this combination of economics with engineering would do far better to go to an institution making a specialty of graduate work in economics. The State and the State college would be the gainer by such an arrangement, and would avoid the criticism which might be leveled at the present tendency to develop advanced and graduate courses in economics in this institution.

The courses in geology are designed—

to meet the requirements of students in civil engineering, students in the division of agriculture, students specializing in geology and botany, students in mining engineering, those who expect to become mining geologists and professional geologists, and students taking general courses.

Accordingly, a student's major may be in geology in the division of industrial science. In so doing he would take a maximum of 49 hours in geology, mineralogy, and physiography, without choosing any electives from these subjects, save as alternates for prescribed courses. This curriculum, with geology as major, whether designed for professional geologists or "students taking general courses," does not differ materially from that which could be taken in a standard college of liberal arts and sciences, perhaps leading to an A. B. degree. It could not justly be described as auxiliary to any technological or semiprofessional purpose in agriculture or engineering.

In the department of geology 28 courses are announced—4 for undergraduates, 18 for undergraduates and graduates, and 6 for graduates only. These represent a total of about 95 semester hours, covering work in geology, mineralogy, petrology, petrography, stratigraphy, cartography, physiography, and meteorology. The staff of instruction consists of one professor, who is also professor of engineering and vice dean of the division of engineering, and one assistant professor. Six graduate courses are announced by the professor, with no indication of alternation in the giving of the courses year by year. Special work in the thesis course, with five hours' credit, may be taken in such specialties as metamorphism and stratigraphic geology. Except for the courses that may be used for a major in

industrial science or in one of the "general courses," the amount of work called for in this department by students in agriculture and engineering, even including mining engineering, would not require more than one-half the present offerings.

The commission is clearly of the opinion that the work of this department, as announced in the catalogue for 1915-16, indicates the existence of a large duplication of the work done at the State university. Geology as a major subject in the curriculum in industrial science and in any other curriculum designed to train professional geologists should be eliminated from the State college. The State does not need two research or graduate departments of geology, for the number of graduate students is not likely, in the near future, to be very large. The State university is in direct contact with the office of the State geologist and the great collections belonging to that office. Because of the development already attained at the State university under these conditions, that institution is the logical and proper place for training all students who wish advanced work in geology. At the State university 19 courses, totaling 59 hours, are offered, besides 6 research courses, for which specific hours of credit are not announced. The department includes the same general scope of work as at the State college, and instruction is given by two professors, one instructor, and one assistant.

The State college must, of course, provide general courses in geology, meteorology, etc., in a service department conducted as such for students in agriculture and engineering, but the department of geology should be kept at that limit. If, as is quite possible, a student should now and then be developed who desires to make geology a profession, or who seeks to strengthen himself as a mining geologist, provision should be made for his transfer to the State university or to some other institution with a sufficient number of mining or geological students in its advanced or graduate courses to give a distinctly professional atmosphere and momentum, to create in him a real scientific or professional enthusiasm. In 1914-15 the registration in mining engineering in the State college was: Senior class, 3; junior class, 4; sophomore class, 0; freshman class, 3. A group so small, even if kept carefully segregated, would be practically lost in the body of engineering and agricultural students.

In order that the State college may avoid all further suspicion that it is endeavoring to build up a curriculum of liberal arts, the commission recommends that its officers take immediate steps (1) to confine the offerings of the departments included in the division of industrial science to such scope as is appropriate to purely service departments and (2) so to recast the requirements for the degree of bachelor of science in this division as to render it impossible for

any student to secure the degree without pursuing industrial or professional courses to an amount substantially equal to that required in other technical courses in the institution. These steps the commission thinks are necessary to make the work in this department coincide with the catalogue announcement quoted on page 70.

SUMMARY OF RECOMMENDATIONS.

1. The strict enforcement by the State board of education of the principle that departments of liberal arts and sciences at the Iowa State College of Agriculture and Mechanic Arts shall be simply service departments; especially the revision of the work offered in the departments of economic science, geology, physics, and mathematics to secure conformity to this principle.

2. The abandonment of courses in chemistry at the Iowa State College which neither contribute to the major lines of that institution nor reinforce the work of the experiment stations.

3. The revision of the requirements for the degree of bachelor of science in the division of industrial sciences to render it impossible to secure the degree except on completion of industrial and professional courses (in contradistinction to liberal arts courses) equal in amount to those required in technical curricula.

Chapter VI.

EXTENSION WORK.

The State board's memorandum, which in general has served as the commission's guide, says, under the caption "Extension Work":

Would it be feasible or wise to consolidate the extension work of the three institutions under one head which would represent the institutions collectively and correlate the work? * * * More or less duplication is sure to result if this work is carried on independently. Your advice touching these points will be much appreciated.

The extension work of institutions of higher education is the taking of some part or parts of the institution to the people where they live. It is of two rather distinct kinds: (1) The giving of courses of instruction in the localities, representing similar courses at the institution itself; (2) instructing and aiding the people by means of many varieties of welfare work, rather than by recognized courses or sustained periods of instruction.

The former is the true university extension—the extending of the institution, by means of summarized and popularized courses of lectures and reading in the subjects that are regularly included in its curriculum. This formal type of enterprise at present occupies a very minor place in the extension field. An institution may now lend itself in many kinds of helpfulness and cooperate with any

number of agencies and organizations, to disseminate information, to aid a person in his occupation, to meet the problems of a community, to set new forces in operation, to organize the intelligence of a constituency. This latter type of extension work has come primarily out of the land-grant colleges on their agricultural side, being an expression of their desire to reach a manifest need and to make the widest application of public funds. It is the expression of a new or decidedly modern intention in education. It is now recognized as a form of national as well as institutional effort, in the Smith-Lever bill, which was signed by President Wilson May 8, 1914, and which provides Federal appropriations for extension work in cooperation with State appropriations. This kind of extension enterprise is now reacting strongly on the older kind and on liberal-arts institutions.

In the State of Iowa the older form of university extension was early undertaken by the State university, and, although it is yet continued to some extent, the welfare type is now, as elsewhere, greatly in the ascendancy.¹

The Smith-Lever Act defines cooperative agricultural extension work (as conducted by the State college) to be "the giving of instruction and practical demonstrations in agriculture and home economics to persons not attending or resident in said colleges in the several communities, and imparting to such persons information on said subjects through field demonstrations, publications, and otherwise." Aside from a flat appropriation of \$10,000 to each State (\$480,000 for the United States), the proportion of the Federal appropriation that goes to any State is determined by the ratio that the rural population of the given State bears to the rural population of the United States, as shown by the next preceding Federal census, on condition that a sum equal to that which comes from the Federal funds shall be provided within each State. The total appropriation for cooperative agricultural extension that must be equaled by other than Federal funds will be \$4,100,000 when the operation of the bill matures; it began with \$600,000 and increases \$500,000 each year for seven years.

With the enlargement of the fields and intentions of higher education, extension work, as well as graduate work, is a natural expression of the institution. It does not follow, however, that every department or unit in an institution may engage in extension work. The department must first be organized and developed effectively for its regular college teaching; the extension work, if it comes at all, should be the result of this internal maturity. In the case of more

¹ At the State university extension work was formally inaugurated by faculty action in October, 1891. Lectures of extension character were, however, given in 1887.

At Iowa State College extension work has been conducted almost since the foundation of the institution, and was being carried forward on a considerable scale when the first State appropriation was made in 1906.

or less competing institutions in any State, founded on public funds, there must also be a good working understanding between all of them. Manifestly, the division of extension work between such different institutions can not be geographical, particularly if the institutions are chartered as State institutions covering the Commonwealth. The differentiation must lie primarily in the dividing of subject matter, recognizing the fact that the cooperative extension work of the land-grant colleges is clearly defined by Federal statute.

The extension enterprises issuing from the three institutions in Iowa are uncorrelated. While there is no particular or damaging duplication at present, there is nevertheless danger in the situation, especially in municipal engineering and related lines, and the longer the condition continues the greater will be the likelihood of conflict. The difficulty lies in the nature of the situation in Iowa, whereby the people have not, by statute, accurately defined the spheres or at least the intentions of the institutions. No real reduction in the overlapping of public effort can be accomplished in the extension work unless it is accomplished also in the regular collegiate work. The remedy lies in adopting the principle of the major line of work elsewhere advised; from these major lines the extension enterprises may develop regularly and fully. This procedure would also have the effect of solidifying the extension enterprise within the institution itself, making it a regular part of the institutional life, issuing from the major lines, rather than a thing apart, organized in entire separation—although, of course, the administration of extension work will always demand special offices and sets of officers.

The commission recommends, as a means of reducing differences and adjusting difficulties between the three institutions in the field of extension work, that the board of education establish a conference composed of the persons immediately responsible for extension in each of the institutions and of a small special committee of the membership of the board itself, this conference to meet for discussion before the main enterprises for the year are laid out by the different institutions and as often thereafter as may be advisable. This conference should constitute a committee or council of guidance, without legislative authority.¹

SUMMARY OF RECOMMENDATIONS.

1. The strict application of the principle of the major lines of work to the development of the extension enterprises of the three State institutions.

2. The establishment of a conference on extension work composed of members of the board of education and extension officers of the three institutions to discuss projects.

¹ For an account of the methods and scope of the extension work of the three State institutions, see Appendix, p. 145.

Chapter VII.

DUPLICATION OF WORK IN PSYCHOLOGY AND EDUCATION.

The Iowa State Teachers College, at Cedar Falls, necessarily offers those subjects that are of special value to the professional training of teachers. Psychology and education are consequently furnished in reasonable amount, about 20 term hours of the former, about 30 of the latter (exclusive of some 20 hours of observation and practice teaching), and 2 hours each of logic and ethics.

This statement represents the operation of the schedule when repetition is disregarded. As a matter of fact three of the 5-hour education courses are given four times a year, another three times, and two twice in the year. So the total number of hours offered to students runs much higher than the figures given, although no one student could secure (exclusive of practice teaching) credit for more than the amount first mentioned. This program involves materially more, both of psychology and education, than the State law requires for first-class teaching certificates, but not more than is appropriate in a professional institution of this kind. Indeed, there might well be some development of the work in lines now either unrepresented or too meagerly represented.

At the University of Iowa there has been for many years a department of education and also a department of philosophy and psychology. In 1913 there was established a college of education with its own dean and special staff, which therefore replaces the old department of education. In recent years, in connection with the general growth of the university, a considerable amount of graduate work has been developed both in psychology and education. The organization of both branches of work appears to be sound, and the large number of students electing courses in these departments would seem to indicate that they are fulfilling in large measure a need definitely felt by the student body. No doubt the attendance of students on these courses is largely affected by the State law, which requires that first-class teaching certificates may be issued only to persons who have successfully passed 6 units of work in psychology and 14 units of work in education. At the present time the college of education is offering roughly 50 credit hours, excluding research work, but including the summer term; the department of philosophy and psychology offers in psychology approximately 36 hours, exclusive of research and inclusive of the summer session. These figures are approximate only, because the work necessarily varies slightly from year to year and is likely to be particularly variable in the summer term. Both departments are handling large groups of students in a creditable manner. (See Table 6.) There

would seem to be no reason why they should not be permitted to develop in response to any genuine demands as rapidly as the financial resources of the institution and a just regard to the similar development of other academic interests will permit.

One point at which difficulty has been encountered relates to the State law requiring that the schools shall offer instructions in household economics, agriculture, and manual training. Through its existing departments the university has been in a position to furnish proper instruction in domestic science and to do something toward training in the manual arts, but it is obviously not properly equipped to offer work in agriculture. Nevertheless, there are on its grounds at all times a large number of young people planning to fit themselves for the work of teaching in the schools of the State where they are likely to be called upon to offer or supervise elementary instruction in agriculture. More pressing has been the need of teachers already in the field who have not had this training, and who, in order to comply with the law, must secure such instruction at the earliest possible moment. Many such teachers can only come during the summer term, and the university has accordingly been put under pressure to furnish instruction in agricultural subjects at that time, whatever it might do during the remainder of the year. It need hardly be said that such work in the nature of the case duplicates to some extent work given at Ames and at Cedar Falls.

Work in psychology has been offered at the State college ever since its foundation. At first the offering of courses was very modest and designed to give a general introductory discipline to such students as might in point of fact be expecting to teach. With the rapid growth of the work in domestic science, and with the increasing emphasis on agricultural instruction in the schools, occasioned by the legislation so often referred to, it has come about that the number of students at any one time on the grounds at Ames expecting to become teachers is very large, running well up into the hundreds. The college has not unnaturally felt that it owed these young people the opportunity to train themselves reasonably for their function as teachers, not only in their subject matter, but also in those accessory branches most directly related to the technique of teaching, two of which, pedagogy and psychology, are actually required by the law. (See Table 6.) In response to these motives, the work in education has been developed very rapidly since 1911; the work in psychology somewhat more slowly, but nevertheless definitely. The program schedules approximately 24 semester hours of education, disregarding practice teaching (6 hours) and research, and 23 hours of psychology, including 2 of ethics; 16 hours of the education work are repeated in the summer, with 4 hours of practice

teaching work; 11 hours of psychology are thus repeated. The amount of work so offered is in theory designed simply to comply with the minimum requirements of the law; that is to say, 14 units of education are ostensibly offered and 6 units of psychology. As a matter of fact, appreciably more than this is offered, but under the conditions of election of courses that exist at the State college, it is probably true that no single student would normally find it possible to secure more than the amount called for by law. Evidently this can not be profitably taken all in one term, and if spread out to cover several terms, it almost inevitably results that the total amount offered is in excess of this legal requirement.

In the summer term teachers are coming in increasing numbers, as they are at the State university and at the State Teachers College, to equip themselves to meet the demands for instruction in agriculture, domestic science, and the manual arts. With the facilities available at Ames it is obviously possible to give admirable opportunity for accomplishing this particular purpose. In conjunction, however, with such courses the authorities at Ames have seen fit to offer an appreciable number of other courses covering work in school administration, in the principles of teaching, etc., work which has been most highly developed heretofore at the State university.

It appears, therefore, that as between Iowa State College and the State university there is at present an appreciable overlapping of work in psychology and education. That elementary psychology must be given at both places is apparently agreed upon by all concerned. That the work at the State college may well touch upon educational psychology and some of the more practical of the applied branches of psychology is also not called in question. There appears to be no intention to go further than this, and there is consequently at this juncture no division of opinion as between the authorities at the State college and the State university regarding the appropriate policy to be followed. The more advanced work will continue to be developed and carried on at the State university as in the immediate past. In education, however, while there is again no disposition to question the wisdom and necessity of giving the more rudimentary instruction in education at both places, such for example as courses in the history of education, in general methods, and the like, there is a division of opinion regarding the extent to which work in agricultural education may be properly undertaken at the State university, and regarding the extent to which work in school administration, with special reference to the interests of superintendents and supervisors, may be justifiably developed at the State college.

In view of the very great difficulty in training teachers so that they may comply with the new State law, it seems probable that the

resources of all the State institutions will for several years be strained to the limit, especially during the summer term. It is, therefore, very doubtful whether there ought to be any external limitation put upon the facilities offered at the several State institutions for giving work in home economics, agriculture, and manual training until the present force of teachers in the State schools has become satisfactorily equipped to meet these obligations. This may well take several years to accomplish, assuming that in the meantime there is no modification of the law.

It may, however, well be questioned whether, after this service has been substantially rendered, there may not properly be a somewhat rigorous delimitation of the work in psychology and education at the State college such as will prevent the development there of more than that amount of work requisite to meet the requirements of the State law for first-class certificates. It is the understanding of the commission that such a policy is, as stated above, avowedly that of the present administration at the State College of Agriculture and Mechanic Arts. It is, however, equally obvious that, unless some rigid supervision is exercised, the history of other institutions will be repeated and this work will little by little be allowed to grow until it has quite outstripped the original intentions of its founders. Certainly, with the exception of work in agriculture, the more advanced forms of training for teachers and especially for superintendents and supervisors who are to go into the higher branches of work in the State ought chiefly to be provided for at the State university. The facilities for such work are already fairly satisfactory there and can readily be developed into conditions of an entirely adequate kind with a smaller expenditure of time and money and among more congenial academic surroundings than elsewhere in the State.

Such development will require substantial expenditures, but they should unquestionably be made. There is decided need for a proper practice school at the university. As a makeshift the present arrangements may be accepted for a time, but they lack stability, and are imperfect in many essential particulars. The State can hardly justify a policy which involves doing poorly a thing that, if done at all, ought to be done supremely well. No informed person can doubt that this practice teaching work ought to be done, and it is to the interest of every community in the State that it be done in the best possible manner. If in this matter the State is to draw upon, or co-operate with, the school authorities of Iowa City or any other municipality, it should be under conditions that fully safeguard the larger interests of the State by assuring opportunities which both qualitatively and quantitatively are representative and adequate. Otherwise the State ought to rely wholly upon its own resources.

Replying more specifically to the inquiry of the State board of education, the commission feels that, as it has indicated above, a certain limited amount of work in education is justifiable at the State college of agriculture and mechanic arts. The obstacles at present encountered in the execution of any proposition to have teachers who are preparing to give instruction in agriculture take their agricultural work at the State college and their work in education at the State university or the State teachers college are of two main types, the one sentimental and capable of mastery, the other intrinsically educational and much more difficult to eliminate.

In view of the present attitude of mind among the students and the alumni of the State university and the State college of agriculture and mechanic arts, any discussion of migration between these two institutions may be dismissed as purely academic. Speaking broadly, no student will go from one to the other if he can possibly avoid it. Obviously this prejudice is intrinsically perverse and almost morbid, and with a more rational state of the public mind, could not for a moment be countenanced. It does, however, relate vitally to the actual facts in the present situation. Migration from Ames to Cedar Falls would encounter another type of sentimental prejudice, but one perhaps equally deep-seated. There is no material animosity between these two groups of students or between the alumni, but the students and graduates of the State college are not disposed to favor migration to the institution at Cedar Falls. However unjustifiable this attitude may be, it would at least make it difficult to induce students to go to the State teachers college in the necessary numbers to make a solution of the problem based on migration at all satisfactory. Moreover, there are difficulties on the side of inadequate accommodations at the State teachers college, commented upon elsewhere in this report (p. 55), which would render this proposal inadvisable without a very material enlargement of the staff and the plant at Cedar Falls.

The other difficulty concerns the fact that, in order to secure the best results in handling the courses in education, it is desirable that several of them should be given in chronological succession covering appreciable periods of time, so that the student may progress from the more elementary to the more advanced phases of the subject. If a student were to give his entire time for one year or even for one-half of a year to educational subjects alone, it would too largely compress the material and oblige the student to take parallel with one another courses which, to be handled most advantageously, should be given one after the other. Moreover, it is often highly desirable that the student should be carrying other subjects along with his work in education rather than be giving his time exclusively to that

topic. These considerations, while not constituting an insuperable obstacle to the proposition to have students migrate from Ames to Iowa City for their work in education, do create a very genuine difficulty which could hardly be altogether removed. Undoubtedly courses in education can be given occupying the entire time for half of a year or all of a year which students could pursue with advantage. But it would be distinctly less desirable than an equal amount of time in such courses spread over a longer total period; e. g., two or three years.

TABLE 6.—*Registrations in psychology and education courses, exclusive of summer sessions.*

Courses.	At the State university.				At the State college at Ames.			
	1912-13	1913-14	1914-15	Total.	1912-13	1913-14	1914-15	Total.
Psychology.....	279	326	408	1,013	271	242	366	879
Education.....	663	689	769	2,121	68	300	435	803
Total.....	942	1,015	1,177	3,134	339	542	801	1,682

SUMMARY OF RECOMMENDATIONS.

1. The imposition of no external limitation upon facilities offered at the three State institutions for giving work in home economics, agriculture, and manual training until the present force of teachers in the State schools is equipped to meet the obligations imposed by the State law.
2. Thereafter the delimitation of work in psychology and education at the State college to the amount requisite to meet the requirements of the first-class State certificate.
3. The provision of better practice facilities at the State university.

Chapter VIII.

HOME ECONOMICS IN THE THREE STATE EDUCATIONAL INSTITUTIONS.

The department of home economics at the Iowa State University was first organized in September, 1913. Its establishment resulted from a prevailing sentiment that all women should find it possible during their college or university years to secure such instruction in the household sciences and such training in the technique of household arts as will enable them to administer their own households efficiently and to care for the physical, mental, and moral well-being of the inmates thereof.

The Iowa State College of Agriculture and Mechanic Arts was a pioneer institution in the introduction of home economics courses into

college curricula, the first work in this subject having been offered in 1869. The authorities in control of the institution at that time considered the instruction of women in the arts and sciences related to homemaking as in harmony with the spirit of the Morrill Act. The Federal Government, through the Department of Agriculture, has since given recognition to home economics as a legitimate line of instruction in land-grant colleges.

The courses in home economics in the Iowa State Teachers College have been arranged to meet the need in the State for teachers of these subjects in rural and elementary schools. The importance of this department in the Iowa State Teachers College has been greatly increased since the enactment into law of a requirement that domestic science be taught in all rural schools, which necessitates the equipment of 12,000 rural teachers with some knowledge of this subject.

Bearing in mind the reasons for the development of these various courses, the commission undertook to study the present status of home economics and to reach a conclusion as to the position it should occupy at each institution.

The department of home economics in the university is housed in one of the older buildings on the campus, but such alterations have been made as to convert this structure into an entirely sanitary, excellently lighted series of offices, classrooms, and laboratories. The equipment provided for teaching the various lines included under "foods," "dietetics," "clothing," and "textiles" is of most admirable type and so plentiful that no additional purchase of similar equipment will be needed for several years, even should the enrollment in the department be doubled. However, the consensus of opinion among home economics teachers is that household administration cannot be most effectively taught without a residence of some sort for use as a practice house. Since the department is otherwise so well equipped, it seems especially desirable that it should not be handicapped by the lack of this piece of apparatus. The initial expense is comparatively small and the cost of maintenance inconsiderable. Such expenditure is in the commission's judgment legitimate. The teaching force of the department is adequate and could easily care for an increase of 30 per cent in the number of students.

In view of reasons elsewhere set forth in this report, the commission considers it unwise to develop at the State university courses in home economics leading to degrees. The proper function of the department in the scheme of university instruction should be that of a service department. Because of both its practical and its cultural value, the continuance of home economics on this basis is amply justified in any institution frequented by women. That courses in the subject not only afford useful training in the arts and sciences involved in the maintenance of efficient homes, but that their

content tends to broaden and humanize the experience of women students is commonly recognized. A certain amount of duplication in the fundamental lines of home economics teaching between the university and the State college is naturally unavoidable, as in the case of English and mathematics and other subjects generally held to be indispensable in both liberal and technical curricula. Unwarranted duplication can be prevented if the university department is kept from expanding beyond the limits of a service department.

Having regard to the definite differentiation of the university department from the department at the State college, where home economics constitutes one of the major lines of work, the development of courses for the training of high-school teachers of home economics should not be encouraged at the university. But there is another field which the university department, as it expands, may enter legitimately and consistently with the principles here enunciated. It may contribute to the training of hospital dietitians. The conjunction at the university of a department of home economics with a hospital and a medical school of the first rank presents an unusual opportunity for the development of this type of instruction. Although the demand for trained women as prescribing dietitians is new, it will apparently soon be considerable. If the State desires to create such courses, they should be connected with the home economics department at the university. This is not to be understood, however, as implying a recognition of professional courses in home economics at the university.

The department of home economics, established in the Iowa State College of Agriculture and Mechanic Arts in 1869, was recognized as a separate division in 1913. This division includes not only the usual household economics subjects, but also the department of physical training for women. The arrangement is most admirable and fortunate in this particular institution, where practically all women students are enrolled in the home economics courses.

The division of home economics has overflowed the recently constructed fireproof building and now uses four rooms in the chemistry building. A new and adequate building is an approaching necessity and should be so constructed that a woman's gymnasium may be included in it.

The teaching of home economics in the State College of Agriculture and Mechanic Arts has followed well-defined lines. It has been planned primarily to train the college women to perform household tasks dexterously and to understand the scientific principles underlying these tasks, and it has prepared many women for teaching and directive positions. More recently there has been organized a strong technical course for women not desirous of receiving a college degree.

There are certain directions in which the division of home economics may be developed logically and consistently with the principles already emphasized in this report. The State board may appropriately encourage the enlargement at the State college of facilities for preparing women for various positions of responsibility in dormitories, tea rooms, hospitals, and cafeterias. To this end it seems desirable that the college cafeteria be placed under the charge of the home economics division, and as far as possible used as a practice place. The training of hospital dietitians, however, appears, in view of the considerations already mentioned, to be more fittingly the function of the university department of home economics in conjunction with the university hospital. The commission recommends that effective cooperation between the home economics division and the authorities in charge of women's dormitories be established. In addition to training high-school teachers of home economics, a task to which the State college is already committed, the institution may well respond to the growing demand for the preparation of teachers of this subject for trade and industrial schools.

The rooms set apart for instruction in home economics at the Iowa State teachers college are located in portions of three widely separated buildings and even in different parts of the city. One food laboratory is in an inconvenient basement room. In the two sewing rooms, which are on the second floor of an old building, the lighting is so poor that artificial illumination must be depended upon during most of the day. With the completion of the new building now under construction, the food laboratory conditions will be somewhat improved. In other respects the housing of the department will still be very unsatisfactory. Two full years in home economics are offered in the degree courses and the diploma courses. In the rural teacher-training course the work covers two terms. In compliance with statutory provision a 12 weeks' course is also maintained.

There are certain fundamental weaknesses in the organization of the department of home economics at the Iowa State Teachers College which prevent the highest efficiency in teaching. The professor in charge of the work in the degree and diploma courses does not oversee either the instruction offered in the rural teacher-training course and in the practice school or the classwork in home economics at study centers held in different parts of the State. That a subject or group of related subjects should be taught in any one institution by three separate and noncooperative groups of teachers is a more regrettable condition than a possible overlapping of similar work in three widely separated institutions. Such lack of departmental coordination can hardly fail to lead to divergent methods of teaching and to unequal stress upon different phases of the subject.

Almost equally unfortunate is, in the commission's judgment, the use of home economics classes in the rural teacher-training courses as practice classes for home economics students in the diploma courses. Rural teachers are required by law to prepare themselves to teach domestic science. There is at least an implicit obligation laid upon the State to furnish at the State training school appropriate facilities for this preparation. In view also of the commanding importance of their future work, these rural teachers should not be subjected to experimentation during the all-too-brief period of their professional training.

As indicated in other parts of this report, teachers carrying 20 hours of college teaching a week with full classes should not be allowed to serve in study centers on Saturdays, unless this added burden is offset by release from some of their intramural work.

The commission recommends the reorganization of the work in home economics at the State teachers college through the appointment of one well-trained woman as head of the department, who shall have the direction of all the teaching in home economics subjects done on the campus, in near-by practice schools, and in the study centers maintained throughout the State. She should be paid a salary comparable with those paid to other department heads.¹

SUMMARY OF RECOMMENDATIONS.

1. The development at the Iowa State University of home economics as a service department along lines that will make it of greatest value to students majoring in other courses of study.
2. The avoidance by the university of courses that duplicate the work offered at the State College of Agriculture and Mechanic Arts in the preparation of high-school teachers.
3. The establishment at the university of special lines of work for the training of hospital dietitians.
4. The provision in the near future of enlarged accommodations for the department of home economics at the State College of Agriculture and Mechanic Arts.
5. The provision of opportunities for preparation in institutional and cafeterial management at the State college.
6. The provision of special courses for the preparation of trade and industrial school teachers at the State College of Agriculture.
7. The improvement of the accommodations provided for work in home economics at the Iowa State Teachers' College.
8. The reorganization of the work at the teachers college under a single head.

¹ The salaries at present paid to home economics teachers at the State teachers college are also too low to enable the institution to compete in the open market for the best teachers. For a comparison with those paid at Ames and Iowa City see appendix, pp. 166, 171, 183.

Chapter IX.

SUBCOLLEGIATE WORK.

In the light of facts presented elsewhere in the report, notably in Chapters II and III, the commission has ventured to make a somewhat careful study of subcollegiate work, and submits herewith its conclusions. Two of the three institutions visited by the commission carry on subcollegiate work on a more or less extensive scale.

At the Iowa State Teachers College, in 1914-15, the general normal diploma course showed 45 men and 219 women registered, and the rural normal diploma course 109 men and 482 women. These, including a few miscellaneous registrations, made a total in these courses of 865 students. The requirements for admission to the normal diploma courses are "on the basis of the rural school diploma" or the first-grade uniform county certificate; the instruction is confined mainly to the subjects required for securing a uniform county certificate or the normal diploma and second-grade State certificate. The need for some pedagogical training for all teachers in the rural and grade schools is urgent in every State in the Union. The public-school system in the State of Iowa needs annually some three thousand new teachers, many of whom will, as a matter of fact, enter their work without any school training in pedagogy. The effort on the part of the State teachers college to meet these demands by offering these subcollegiate courses is to be commended, as an essential part of the service of this great institution. In view of the fact that no other normal schools exist in the State, and the further fact that the training given in the normal courses in selected high schools is at best superficial and incidental to other purposes of the high schools, the commission believes that a still larger proportion of the energies of the State teachers college might profitably be devoted to the subcollegiate work, both in the regular session and in the summer session until such time as the State shall respond to the need for better training for all the teachers in its public schools and especially those in the rural schools. There is little danger that the development of this work, which is so directly accordant with the original purpose of the institution, will be overemphasized, or that it will bring the institution into unfair competition with the standard secondary schools. A distinct advantage of these courses, as given in the State teachers college, especially the vocational normal course and the rural teachers course, is found in the opportunity for practice teaching, for example in the demonstration rural schools maintained by the teachers college, under conditions approximating those which the student will afterwards meet in her independent teaching. But, although these courses meet an urgent present need, one which will

undoubtedly continue to be felt for some years, the State teachers college should, as soon as possible, extend its courses for the training of elementary school teachers, and should require high-school graduation for entrance to them.¹

The noncollegiate work at the Iowa State College is comparatively recent in its present form. The institution formerly combined secondary, vocational, and college work, but in 1910 it ceased to announce an academic curriculum enforcing the usual requirements of 15 units for admission. Beginning in 1911, it again announced an agricultural short course "of lower grade" than collegiate. "Noncollegiate work" as a title was resumed in 1912, and the college now spends about \$54,000 per year for this purpose. Since this is a special grant by an act of the legislature, it can not be said that the non-collegiate work is making direct drafts upon the regular income of the college. The fluctuation or experimentation in these noncollegiate and short courses is shown in its general features in the accompanying tabulation.

¹ See Chapter III, p. 55.

TABLE 7.—*Courses in the Iowa State College—Registration.*

Catalogue of—	Designation of courses.	Organization of short courses or noncollegiate.	Registration.			
			Year.	Academic or non-collegiate.	Short course.	Special.
1908-9 1909-10	Academic. Academic; junior college; including academic, freshman, and sophomore classes.	Certain students over 20 years of age admitted "without examination" if they had "satisfactory preparation." Two-year course in mining engineering; clay working; 1-year course in poultry husbandry.	1907-8 1908-9	232 271	..... .....	221. 157.
1910-11	Junior college, including freshman and sophomore classes.	Two-year course in mining engineering, clay working, and agriculture; 1-year course in poultry husbandry and dairying.	1909-10	.....	.....	75 unclassified, 119 in music.
1911-12	.....	Agricultural short course, "lower grade than collegiate"; 2-year course in clay working and agriculture; 1-year course in poultry husbandry and dairying.	1910-11	.....	149	141 in music.
1912-13	Noncollegiate.	Agricultural short course (noncollegiate); students must be 17 years of age and have completed eighth grade; 2-year course in agriculture; 1-year course in dairying; 1-year course in poultry husbandry; faculty—president and deans, 1 associate professor, 3 assistant professors, 13 instructors.	1911-12	188 in agriculture.	.....	.....
1913-14	.....do.....	Short course (same as in 1912-13); 2-year course in agriculture; 2-year home-maker's course; 2-year course in engineering (in trade-school work); 1-year course in poultry husbandry; 1-year course in dairying.	1912-13	218 in agriculture, 121 in music.	.....	19 in agriculture.
1914-15	.....do.....	Students must be 17 years of age and have completed eighth grade; 2-year course in agriculture; 2-year course in engineering (vocational course); 2-year course in home economics; 1-year course in dairying.	1913-14	275 in agriculture, 22 in engineering, 24 in home economics; total, 321.	.....	.....
1915-16	Noncollegiate (see 1914-15).	Faculty: President and deans, 4 professors, 3 associate professors, 4 assistant professors, 21 instructors, 1 assistant.	1914-15	249 in agriculture, 66 in engineering, 51 in home making; total, 365; 154 in music (of whom 92 are duplicates).	.....	14 in agriculture, 6 in engineering, 4 in home making, 9 in industry.

Noncollegiate work is now offered in the following "two-year courses or curricula: Agriculture; home economics; vocational courses in engineering for electrical workers and stationary engineers, mechanical draftsmen and mechanics, structural draftsmen and building superintendents, surveyors and road makers; and a one-year course in dairying." For admission, a student must be at least 17 years of age and must present a certificate showing the completion of the eighth grade. High-school graduates, or students able to present 14 units, are not eligible to the noncollegiate course, with the exception of the one-year dairying course. Other students who have completed less than 14 units of acceptable high-school or academic work may secure some entrance credits, perhaps as many as 5 units of high-school work, through these noncollegiate courses, though the courses are not intended to prepare for the satisfaction of entrance requirements. One instructor reported that the majority of his students had had some high-school work, and a few almost four years of such work. This noncollegiate work should not be confused with the two-year college course in agriculture, for entrance to which students must present the same requirements as for the four-year collegiate course. As will be noted in the table, the enrollment for 1914-15 showed 249 noncollegiate students in the division of agriculture, 65 in engineering, 51 in home economics, 154 in industrial science (chiefly local students taking music).¹ The total of noncollegiate students, therefore, excluding music students, is about 365.

Instruction for noncollegiate students is given by 32 departments, corresponding approximately to those of the regular collegiate divisions. They include mechanical engineering, structure design, veterinary medicine, psychology, and bacteriology, as well as the agricultural subjects. Much of the instruction is given in the same laboratories, and in a very few cases by the same instructors as in the college proper. The faculty of the noncollegiate section consists of the president, the deans of agriculture, engineering, home economics, industrial science, and veterinary medicine, and 4 professors, 3 associate professors, and 4 assistant professors doing noncollegiate work. Besides these there are 21 instructors, 5 of whom appear to have no college degrees. With regard to the character of the instruction offered, an instructor in animal husbandry, for example, said that he gave to noncollegiate students substantially the same lecture and laboratory work as were given to collegiate students, but gave it more slowly. It was his judgment that most of the students in his classes could do the college work. While the noncollegiate teaching staff is kept fairly well separated from that of the college proper, the 365 noncollegiate students create as real a pressure upon the space

¹ Music is listed as one of the subjects in the division of industrial science; see p. 70.

and facilities of the institution as would approximately the same number of collegiate students. In a statement to the commission, the president of the institution declared that the college needed a building for the work of the noncollegiate section and that it ought to develop that work in engineering and home economics, as well as agriculture, though he said that the State had not thus far responded to the arguments for this development.

The commission is not much impressed by the arguments urged for the existence and development of this noncollegiate work by the State college. These are, in brief, that the college has to give it; that it thus takes care of "fine young men and women, not graduated from the high school, who have finished the eighth grade but want a little intensive, practical instruction"; that these students should have the same chance as other students, though they are not prepared for the college work, which is the main work of the institution. All these arguments could be urged about as strongly for other and perhaps lower grades of instruction by the college. The students who are ill-prepared for the regular work of the institution will probably always be a problem. Granting that the obligation to care for these students is laid upon the State, it does not follow that the work should be undertaken by an institution of collegiate standing as an appendix, or distraction. The State has once decided wisely, as the commission believes, not to mix secondary, collegiate, graduate, and research work at the State college. The commission therefore recommends that the State college give up for a second time all noncollegiate instruction (except limited short courses in winter or in summer for special groups of students), and give it up at the earliest possible date. This date should be announced in advance, so that adequate provision could be made by the State for the groups of students now represented in the noncollegiate courses. The State college would thus be free to discharge still better the large and increasingly heavy obligations which will inevitably tax to the limit all the resources the State will put at its disposal as a college of agriculture and mechanic arts. The commission is convinced that in the long run the money devoted to noncollegiate instruction will be practically a deduction from the total revenues that will be devoted to the institution by the legislature. In this conviction the commission is supported by the statement of so distinguished an authority as Dean Eugene Davenport, of the college of agriculture of the University of Illinois, who writes:

Even though special funds may at first be provided for the handling of such a group of students in an institution doing collegiate work, yet the time is bound to come, as the numbers increase and as the demands upon the institution multiply, when this group of students thus introduced will result in definite subtraction from the work which an institution may do of a strictly collegiate grade whether we are to regard the space required, the teaching power of the faculty, or the funds which may be provided for the institution.

Much more elaborate provision than at present needs to be made for the class of students now cared for by the noncollegiate courses of the State college. Furthermore, these provisions should be distributed about the State rather than centralized as a side issue or in the proper work of the State college. The field should be inoculated at many points, not at one only. The State is already subsidizing high schools to undertake special forms of secondary work, such as agriculture, home economics, and normal training. Instead of creating separate agricultural schools the commission urges the subsidizing of strong, progressive, strategically located high schools, which shall develop special vocationalized courses for the class of students under consideration. The State may well go to the extent of providing special local buildings (perhaps including dormitories) and farm tracts for the schools in question. Courses in these schools should not be those of the ordinary high school, but should be courses particularly adapted for the students who would not, under the usual conditions, return to the high school. The commission recommends that all work of this character should be under the general supervision of the State college. To put it in other words, this group of strong high schools, whether consolidated, or county, or union high schools, would perform for several thousand students the services which the State college now performs for a few hundred, many centers of impulse would take the place of one, and the directive, inspiring leadership of the State college would operate widely through permanent schools linked closely with many rural communities as well as through occasional extension groups.

SUMMARY OF RECOMMENDATIONS.

1. The continuance of subcollegiate work at the State teachers college.

2. As soon as other provision can be made, the abandonment by the State college of agriculture and mechanic arts of all noncollegiate work, except for limited short courses, in winter or in summer, for special groups of students.

Chapter X.

COURSES IN JOURNALISM.

The commission has investigated the matter of journalism, which was referred to in the memorandum submitted by the State board. It finds that some courses in journalism are offered at both the State university and the State college, but that there is, at present, no endeavor at either place to establish a school, or college, of journalism. As will appear in the following paragraphs, the commission

does not regard the establishment of such a school or college as at present desirable.

The work at the Iowa State University is confined to one 3-hour course running through the year, offered in the department of English. It is given under the title "The Newspaper," and discusses the principles and practice of journalism. It consists of lectures, the writing of "newspaper stories," articles, etc., with laboratory or practice work done upon the college paper, "The Daily Iowan," which is under the exclusive editorial direction of the instructor in this course. The establishment of this course, and its relation to the university paper, which is in reality a purely private enterprise, absolutely owned by one or two men, have a twofold purpose: First, to give some general instruction in the elements of news writing for students looking toward newspaper work as a profession; second, to secure the control of the college daily, whose conduct some of the faculty had looked upon as not creditable to the university. This control was so desirable, in the judgment of the department of English and the university authorities, as to warrant the payment of a salary of \$1,900 to the instructor, who gives only the one 3-hour course in the department, and devotes the rest of his time to the editing of the college paper and to publicity work for the university. Granting that the instructor appointed to the place is unusually capable and experienced, it is still a question whether it was wise to make such an outright addition to the budget of the department of English, which is already strained to meet the demands of undergraduate instruction, and which has scarcely begun to develop graduate work. The editorial and reportorial work on the college paper is conducted by the instructor and the members of his class; the advertising and financial part of the business of the paper is controlled entirely by the owners. Twenty-three students are taking the course in 1915-16. The student body of the university is said to be satisfied with the present arrangement for conducting the university paper, an arrangement which was characterized by a member of the faculty as "not a system, but a man."

This course does not commit the university to any formal development of a curriculum in journalism, leading to a degree, though such may be the outcome of this beginning. Probably another year will see an additional course offered, under substantially the same conditions. The university authorities have not been convinced, however, that there is a strong demand for college-trained journalists. This opinion was more or less confirmed by the responses received by the commission to a questionnaire sent out to all the publishers of periodicals in the State. The publishers were asked to state how many persons were employed in their editorial and business departments, excluding compositors, etc., how many of these were college

graduates, how many were graduates of institutions in Iowa, and, lastly, whether there was, in their judgment, a large and growing demand for college-trained men, comparable to the growing demand for men similarly trained for the professions of law and engineering.¹ Replies were received from 320 newspapers or periodicals. Of these, 200 replied to the last question in the affirmative, but only 49 supported their answers with any comment or argument; 94 answered in the negative; of these, 27 added comment; 20 failed to answer the last question, and 6 were noncommittal. The larger newspapers of the State were about evenly divided in their opinions as to the demand for college-trained men. The same is true also of the special journals like those dealing with agricultural matters.

The work in journalism at the State college is announced under the somewhat inapt title of "agricultural journalism." It is in reality a group of brief courses in technical journalism, under the direction of a professor who gives part of his time, an assistant professor, and student assistants. Nine courses are offered, involving a total of 15 hours. There are three general courses of one hour each, and three groups of two-hour courses dealing with the special application of journalistic practice to agriculture, engineering, and home economics, and three separate two-hour practice courses corresponding to each of these divisions. Two courses, in "Newspaper management" and "Management of a technical journal," one hour each, are given in connection with the actual making of the "Iowa Agriculturist." They follow the two-hour courses in "Beginning Technical Journalism." The department of agricultural journalism now includes also home economics journalism (since 1911) and engineering journalism. The department was established in 1905 through the grant of \$1,000 annually by Mr. John Clay, of Chicago, whose subsidy has continued to the present time.

The commission commends the form of instruction attempted here, since it gives a sensibly limited opportunity to students to acquire facility in writing technical paragraphs and articles for specialized periodicals. Any considerable enlargement of the present offerings of the department would, in the judgment of the commission, be open to objection.

SUMMARY OF RECOMMENDATIONS.

The approval of the work in journalism now offered at the Iowa State University and the Iowa State College of Agriculture and Mechanic Arts and the limitation of it to approximately its present scope.

¹ For this letter see Appendix, p. 155.

Chapter XI.

COURSES IN COMMERCE OR A SCHOOL OF COMMERCE.

The State University of Iowa has for a good many years had strong courses in political economy, political science, and sociology, and for a time announced these as a school of political and social science and commerce. Its aim was stated to be: "To give a complete general view of all the political and social sciences, to foster their development, to assist in preparation for the various forms of public and social service, and to provide training for the wider avenues of business." In its faculty were included professors of history, law, and medicine.

In 1915 an effort was made to secure from the legislature a special appropriation for a school of commerce, which was to supplement, even to supplant, the organization just mentioned. In support of this proposal to develop a separate school or college of commerce, a brief was submitted to the legislative committee. This document, which the commission has before it, may be taken as the strongest presentation which could be made in favor of the proposed school of commerce. As a proof that there is an unmistakable demand for college graduates trained for business, social, and public service, it is asserted that one-fourth of the living male graduates of the college of liberal arts of the university are engaged in business, and that the percentage increases with each graduating class. According to the estimate of the registrar, 50 per cent of the men in this college will go into business. In the departments of this college the university had 1,200 registrations. The large number of letters received by the university commending the efforts of the extension division to serve the business interests of the State, which call upon the university for graduates competent to fill business, governmental, and social-service positions, and the demand for teachers of commercial subjects are likewise adduced in support of the proposal to erect a school of commerce. The brief cites the success and popularity of schools of commerce in such institutions as Harvard, Pennsylvania, New York, Illinois, Northwestern, and Chicago. It points out the increasing recognition of the fact that business men, like lawyers and engineers, must be thoroughly grounded in the principles underlying their work and instructed in the most up-to-date organizational practices. Attention is also called to the importance of furnishing those who would enter the industrial and social fields of the State with as good an equipment for service as is offered to those who would develop agricultural interests. For the support of this proposed school a considerable sum of money was asked, which should be comparable with the annual budgets of similar schools at the University of Illinois (about \$34,000) and at Northwestern University (about \$57,000).

The commission points out in this connection that the school or college of commerce in such institutions as Harvard and Illinois includes in its organization the department of economics, which is quite as much a service department for all the liberal arts curricula as it is a technical department for the college of commerce.

While the legislature did not make the appropriation asked for, the university appointed a new man to the professorship of political economy, sociology, and commerce, to take up most of the work relinquished by Prof. Loos, and to develop it with especial reference to the demands just mentioned. The commission has examined a schedule of the proposed courses for 1916-17, which indicates the desires of the department under its present leadership and the direction in which it would like to develop. A part of such a plan of development would be the addition of at least one full-time man for 1916-17 to take the place of a part-time man, to conduct theoretical courses, and the addition of two or three men in 1917-18 for the elaboration of courses in salesmanship, advertising, accountancy, commercial teaching, and the like. The total number of registrations for 1914-15 was 722, representing 475 persons. The corresponding figures for 1915-16 (November) were 860 and 560.

Before undertaking to formulate an opinion, the commission has also consulted persons outside the university and outside the State college who are intimately acquainted with conditions in Iowa. It appears to the commission that there is not a close parallel between the obligation of the university and that of such institutions as Harvard University, New York University, Northwestern University, and the University of Illinois, all of which draw very large numbers of students from great urban communities. Iowa is essentially a State devoted to agriculture and retail business, with many cities of medium size, but no great cities having highly complex business organization and continent-wide or international relations. While the commercial and industrial development of the State will perhaps go on rapidly, the probability of a sharp intensification of the demand for men trained in narrowly specialized courses in commerce is not very convincing as an argument for elaborate specialization in the curriculum of the university.

If a college or school of commerce were to be developed in Iowa, it obviously would belong in the university, where it would receive the best form of reenforcement in the allied subjects of history, political science, mathematics, modern languages, and psychology. The commission, however, is unconvinced that the university or the State would be warranted at the present time in proceeding to create and develop a separate college or school of commerce in the university and recommends that the present movement be confined to a moderate expansion and better correlation of the courses now offered

in different departments of the university, which would furnish the sort of training and develop the sort of interest which a progressive and ambitious business man should have. The three curricula proposed by the department—"Business course," "Secretarial course," and "Commercial teachers' course"—each leading to the degree of bachelor of arts in commerce, appear to be not much more than a broad liberal arts course, with a major in economics somewhat expanded. A college built upon this model would be a single-department college, most of whose work would be done in other colleges and departments. If accounting and economics were separated, it would make two departments at most. In the outline of "proposed courses" for 1916-17, the instructor in accounting is put down for 12 courses totaling 28 hours, and running into such refinements of the subject as "accounting for pharmacists." Under the heading of "Economics and business" are announced also courses in "immigration," "social statistics," "vital statistics," "business English," and "principles of persuasion and conviction." There is undoubtedly a tendency among the universities of the country to extend quite considerably those courses specially designed to interest students who are to go into business. Some persons even go so far as to claim that curricula for this purpose should be designed so as to make them quite as professional as courses in engineering, law, or medicine. The time may come when these curricula composed of courses in close sequence, leading to the preparation of technical experts in business, will be developed, but such curricula would be rather in the nature of graduate courses like those offered at Harvard University and Dartmouth College, than undergraduate courses made up in large part of courses in liberal arts and sciences.

Many advocates of improved training for engineers have, in recent years, swung away from the highly technical prescribed curricula toward a curriculum containing a larger amount of liberalizing material, or perhaps even to the requirement of one or two years of liberal arts and science work as the preparation for technological or engineering work, in the same way that one year of liberal arts work—sometimes two—is prescribed for admission to a standard medical or law school. When preparation for business is ordained in a similar manner upon a professional basis, it will be important to create a separate college organization and to back it with liberal funds for men and equipment. The expense of such a college will be great, owing to the fact that the university, in making appointments to its teaching staff, will have to compete in the business market for men of special talent and success. Twelve thousand dollars, which has been suggested as the sum that could be better put into business courses than anywhere else in the university, would be little more than a respectable beginning. Such men will be in great de-

mand and will command salaries, as a rule, quite beyond the ordinary university salary. If the university is to develop a college of commerce for the training of leaders and experts in business organization and enterprise, it can not afford to man its departments with mediocre men. The best men must be paid high salaries, salaries determined by the commercial or industrial market, and not by the educational market alone. In the long run, however, it will be economical to secure such men.

The commission urges one other reason for caution in the development of a distinct collegiate organization in commerce and business. The business and commercial interests of the State must demonstrate a permanent and cumulative demand for men who have had a professional or semiprofessional business training, similar to the demand recently generated among the agricultural interests, before the university will be warranted in proceeding beyond a strong departmental organization in economics, accounting, and commerce. When such a demand is demonstrated, and a commanding group of experts has been gathered together in the university, efficient service may be rendered to the State through investigation of commercial and industrial problems and practices, through extension courses, and through short courses offered at the university itself.

SUMMARY OF RECOMMENDATIONS.

The moderate expansion and better correlation of courses now offered in various departments of the Iowa State University rather than the creation of a separate college of commerce.

Chapter XII.

A STUDY OF THE USE OF BUILDINGS AT THE IOWA STATE INSTITUTIONS.

A considerable portion of the State board's memorandum related to the building policy of the State at the three institutions. It requested the investigators to consider this policy with care, to study thoroughly the use of building space at each of the institutions, and finally to give definite advice as to the erection of a new building at the State university to take care of the departments of botany and geology. The commission has gone into these questions as carefully as the time and the money allotted to the survey would permit and submits this statement, which it hopes may be of value to the institutional authorities not only in determining the building program for the next biennium, but also in future estimates of the use of space.

It should be noted that all percentages, ratios, and other analyses given in this chapter or in the appendix are absolutely dependent upon the accuracy and completeness of the information submitted by the authorities at the State university, the State teachers college, and the State college of agriculture and mechanic arts for their respective institutions. The original data from which these results have been obtained are on file in the office of the Bureau of Education at Washington. Every effort possible under the limitations of time and finance has been made to correct discrepancies in the data received and to verify all calculations that are part of this report.

In considering the effective use of the floor space of any educational institution certain fundamental facts must be kept in mind. It should be fully recognized and appreciated at the outset that the ideal of the engineer—full utilization of a plant's facilities, so that every foot of plant is productive, leads to production, or, as unproductive, serves to aid production—is not only impracticable, but in fact impossible as a standard of measurement for academic operations. Teaching is not production in the ordinary sense and is subject to many factors and variants not encountered in industry. Laboratory equipment, for instance, must necessarily be highly specialized for the work of its science, whether natural or applied, and beyond its employment by that science in the process of instruction (in turn governed by unique considerations of brain fatigue, working light, and like expedencies) such "plant machinery" must perforce lie idle. Further, the human factor is not an operating factor producing material goods, but is concerned with teaching or with research; either with the transference of the vital thought from the mind of the teacher to the mind of the scholar, or with pushing outward the boundaries of knowledge through research.

Largely owing, however, to the very fact that the product of academic institutions is difficult to measure quantitatively, avoidable wastes have crept in in certain places, unnoticed by the faculties absorbed in the carrying on of their teaching and research pursuits. The figures and analyses given here indicate some of these overlooked wastes at the Iowa State institutions.

This study involves only actual conditions that are definitely expressible in the form of the number of square feet of floor space, the number of students, or the number of hours. Theories of construction and of use are purposely avoided, except in so far as the facts are interpreted for the special benefit and at the special request of the building committee of the board of education.

The total floor space of any building used for industrial purposes is composed of productive and unproductive space. Owing to the possible ambiguity of these terms when applied to buildings used for academic purposes, the terms "instructional" and "accessory" will be used in this report. Teaching space is obviously instructional

space; all other space, so far as the present purpose is concerned, is accessory, or, in some exceptional cases, a "combination" of instructional and accessory elements. The combination space set forth in the tables is used for purposes peculiar to the method of instruction or the construction of the building. In industry, as already indicated, productive space is most valuable when so designed and utilized as to give maximum opportunity for production. Unproductive space is most valuable when the maximum amount of it effectively serves the ends of productive space.

Instructional space, as the term is employed here, means that space used for the primary function of the institution—teaching—and is distinguished by the presence of a student or group of students for purposes of instruction. Under this head fall—

1. *Classrooms*, or space suitable for recitations or lectures in any course, regardless of content, where working apparatus is not required.

2. *Laboratories*, or space having individual equipment so specialized to a particular purpose that each student is enabled to pursue his task irrespective, in general, of the progress of others in the room at the same time.

3. *Mixed space*, where existing in a few cases, is simply an inseparable combination of classroom and laboratory elements. It should not be confused with "combination" space, defined above as a mixture of instructional and accessory space. For instance, an equipped laboratory in which some spasmodic recitations may occur does not, for present purposes, lose its essential laboratory character by such use unless the authorities have plainly indicated on the floor plans or rosters that it is a mixed room.

Accessory space, although not used specifically for teaching purposes, is to a large degree essential to the plant because of the physical features of building construction and the needs of the administrative functions. Waste or efficient use may equally well occur in instructional or in accessory space. Accessory space is classified into—

1. *Administration*, which includes all offices; storage and supply rooms; repair shops, tool rooms, and janitors' rooms; official reception rooms; vaults; document rooms; power plants and substations; battery rooms; private research laboratories, when same are not for purposes of student instruction; and the like.

2. *Other accessory space*, which groups all space, both necessarily and unnecessarily accessory, not otherwise classified, such as museums, libraries, and reading rooms, exhibit and display rooms (when separate from teaching space); locker, dressing, and rest rooms; halls and corridors; stairs and elevator shafts; dead floors; space used by interests outside the institution proper (State highway commission

at Ames and Y. W. C. A. at Cedar Falls); lunch rooms and literary society rooms; and the like.

Two other definitions are necessary to an understanding of the facts presented below. Instructional space is further classified as—

1. *Scheduled space*, i. e., that for which the commission has received a statement of definite student capacities and definite hours of actual use for teaching purposes, and

2. *Unscheduled space*, i. e., that teaching space for which either the capacity, or the hours of use, or both, were not furnished in response to the request for such data.

Accessory space, of its own nature, is “unscheduled.”

The purpose of the statement of these subdivisions is to narrow down the inquiry to a manageable scope which will focus all available facts on the particular question asked by the board of education, viz: “Is the space provided for classroom, laboratory, and office purposes being economically used?”

METHOD OF INVESTIGATION.

Ten principal buildings were selected at the State University, eight at the State Teachers College, and ten at the State College of Agriculture and Mechanic Arts for detailed study as most normal and typical of the respective institutions and most nearly comparable as between the institutions. The new chemistry building at Ames could not be considered because of its incomplete equipment.

The analysis of the facts gained from a study of these buildings was further concentrated on the “scheduled” teaching or instructional space, which, as defined above, is that space used regularly each week by a definite number of students at definite hours, and for which the occupancy and time ratios explained later may be calculated. The “unscheduled” instructional space and the accessory space may be compared as to relative quantity, but not as to whether utilization is effective. On the basis of such principles, the commission can not say, after an examination of the floor plans and a broad observation of the three institutions, that a certain office is or is not used effectively. It can only indicate, on the basis of the data obtained, how much the instructional space is used and how the three institutions compare, leaving the determination to the board of education and to the institution in question as to whether or not that quantity is or is not effective utilization. By reducing these comparisons to a percentage basis it is not intended to fix 100 per cent or any other standard of effective academic use; 100 per cent utilization is wholly impossible in any educational institution. The figures showing the proportions of scheduled to all instructional space, of scheduled to total, of instructional to total, and of accessory to total, at the three institutions on the same basis of classification, appear in the appended tables.

Two methods might have been employed—the method of averages and the composite method.¹ The method of averages used throughout this investigation to determine the facts is given here in full as applied to the average use of the classrooms at the State University of Iowa.

By the method of averages it is found that 49.53 per cent of the *actual* capacity of classrooms at the State University of Iowa is used 37.13 per cent of the time, or an average use of 18.39 per cent.

The relation of the capacity of each room to its theoretical maximum capacity, or the increased utilization which would result from changes in seating arrangements and the like, depend so largely upon the policy of the institution (and in the case of the laboratories, upon the content of courses) that they at once involve elements outside this report.

Explanation of the occupancy ratio "O."—The percentage of the classrooms' actual capacity actually occupied is given the title "Occupancy" (O). The occupancy (O) equals 49.53 per cent for the classrooms of the State university. The method of obtaining the ratio "O" is as follows:

The maximum occupancy for any room (the maximum number of students regularly in the room at any period of the week), plus the minimum occupancy, divided by 2, equals the average occupancy. The average occupancy, divided by the number of working units (capacity) of the classroom reported by the authorities, equals occupancy ratio "O" for the given room. To obtain the occupancy ratio "O" for the classrooms in any given building, obtain the sum of the occupancy ratio "O's" for all classrooms and divide by the number of classrooms regularly scheduled in such building; this equals the classroom "O" for the building. To obtain the occupancy ratio "O" for a group of buildings, the sum of the classroom "O" ratios for the buildings having scheduled classroom space, divided by the number of such buildings, equals the "O" of the plant's classrooms, or, in the case cited, 49.53 per cent.²

¹ By the Composite Method is meant—

- (a) The assumption that all classrooms in a given building are as one classroom, all laboratories as one laboratory, etc.;
- (b) The combination of the individual room occupancies, capacities, periods used, and periods in week (number of rooms multiplied by 44) to find the "O," "T," and "OT" for the composite classroom, laboratory, and mixed space; and
- (c) The further combination of the class, laboratory, and mixed ratios to yield the "OT" ratio for the plant, which would be—

$$\frac{\text{Total occupancy} \times \text{total periods used}}{\text{Total capacity} \times \text{total periods in week (Number of rooms} \times 44)} = \text{"OT"}$$

In view of the fact that the method of averages better serves the purpose of this analysis, the composite method is, in the opinion of the Commission, one of purely mathematical interest. To avoid confusion, the elements just outlined are not developed further in this report.

² Together with each such calculation of occupancy as that given above should exist a note showing the area and the relation of capacity to area, or the number of square feet for each working unit.

"Plant," wherever used here, means the buildings selected as listed in the tables. The following numerical example may serve to show the method still more clearly:

Example: Room 109, Liberal Arts Building (or any other room, X).

Area, 710 square feet.

Seats, 36=capacity.

Square feet for each unit equals area divided by number of seats = $\frac{710}{36} = 19.7$ square feet.

Maximum occupancy per period, 33.

Minimum occupancy per period, 7.

Average occupancy per period, 20.

"O" ratio for room, $\frac{20}{36} = 55.5$ per cent.

Adding the "O's" of the 23 classrooms in the building and dividing by 23 gives the average classroom O of this building. Adding the average classroom O of all buildings under consideration and dividing by the total number of buildings having scheduled classroom space (7) equals the classroom O for the plant = 49.53 per cent.

Explanation of the time ratio "T."—The percentage of the total scheduled time that classrooms are actually occupied is given the title "Time" (T). In the case just cited the time ratio (T) equals 37.13. The method of obtaining the ratio "T" is as follows:

For any single room the ratio "T" is obtained by dividing the number of periods per week that the room is regularly occupied by 44 (the total possible teaching periods per week).

For any given building the sum of the resulting percentages for all classrooms divided by the number of classrooms thus regularly scheduled in each building equals the classroom T for the building.

For the whole plant the sum of the T ratios for all buildings having scheduled classroom space divided by the number of such buildings equals the T of the plant's classrooms, or, in the case cited, 37.13 per cent.

The method used for T is in general similar to that used for O, but a numerical example may serve to clarify the process:

Example: Room 109, Liberal Arts Building. (or any other room, X).

Periods room is used, 18.

Periods in week (constant), 44.

T ratio for room equals $\frac{18}{44} = 40.9$ per cent.

Adding the T's of the 23 classrooms in the building and dividing by 23 gives the average T of the classrooms of the buildings. Adding the average classroom T of all the buildings and dividing by the total number of buildings having scheduled classroom space (7) equals the classroom T for the plant, equals 37.13 per cent.

Explanation of the average use ratio "OT."—The average use ratio (OT) may be defined as the product of the occupancy and time ratios; that is, the average use is made up of both factors, average occupancy and average time used.

The determination of the factor "OT"¹ (average use) for the classrooms at the State University of Iowa then becomes 49.53 per cent of space use (O) multiplied by 37.13 per cent of time use (T)=18.39 per cent average classroom "use" for the plant (OT).

To give a single numerical example.

Example: Room 109, Liberal Arts Building (or any other room, X).
55.5 per cent (O) × 40.9 per cent (T) = 22.7 per cent (OT).

The same percentage of use may be calculated by this method:

$$\frac{\text{Average occupancy (20)} \times \text{periods used (18)}}{\text{Capacity (36)} \times \text{periods in week (44)}} = \frac{360}{1584} = 22.7 \text{ per cent (OT).}$$

Either of the methods just given applies only to computations for single room OT. To arrive at the plant's classroom OT, multiply the average classroom O for the plant (see explanation and example above) by the average classroom T for the plant, which equals 18.39 per cent, in the case of the State university.

The examples just given deal only with classrooms; the statements below, A, B, and C, include also laboratories and mixed space. The method used is, of course, the same.

A. STATE UNIVERSITY OF IOWA.

1. Instructional space is 39.757 per cent of the total space.

Scheduled space is 69.415 per cent of the instructional and 27.415 per cent of the total space.

By the method of averages—

- (a) 49.53 per cent of the classroom's actual capacity is used 37.13 per cent of the time, or an average use of 18.39 per cent.
- (b) 51.728 per cent of the laboratories' actual capacity is used 37.65 per cent of the time, or an average use of 19.47 per cent.
- (c) 58.613 per cent of the mixed space capacity is used 37.103 per cent of the time, or an average use of 21.76 per cent.

Combining (a), (b), and (c),

- (d) Of the plant's *total scheduled space* (classrooms plus laboratories plus mixed), 53.732 per cent of the capacity is used 36.852 per cent of the time, or an *average plant use of 19.815 per cent (OT)*.

Explanation: 53.732 per cent = Occupancy ratio (O) = the average of the "O" ratios of all buildings, each of which is an average of the "O" ratios of the class, laboratory, and mixed space (considered separately in (a) (b) (c) above) of that building, i. e., an average of the use percentages found by dividing the sum of each building's "O" by the number of buildings having an "O" ratio.

36.852 per cent = Time ratio (T) = the average of the T ratios of all buildings, as for O, just stated.

19.815 per cent = Average use ratio (OT) = 53.732 per cent × 36.852 per cent, which combines the factors of space and time to show an actual use of time-capacity of 19.815 per cent for the plant.

2. Accessory space is 54.732 per cent of the total space.

¹ It must not be assumed that the percentages given here can be compared in any way to 100 per cent. It is not known what an effective percentage for academic utilization of space is. Probably from 35 to 50 per cent would be as high as could be reasonably obtained under favorable conditions at present, and this percentage is a purely empirical one. As far as is known, only one study of this nature has been

B. IOWA STATE TEACHERS COLLEGE.

1. Instructional space is 44.876 per cent of the total space.

(a) Scheduled space is 87.248 per cent of the instructional and 39.154 per cent of the total space.

By the *method of averages*—

(a) 60.32 per cent of the classrooms' capacity is used 38.692 per cent of the time, or an average use of 23.34 per cent.

(b) 65.638 per cent of the laboratories' capacity is used 34.806 per cent of the time, or an average use of 22.83 per cent.

(c) 62.46 per cent of the mixed space capacity is used 39.878 per cent of the time, or an average use of 24.94 per cent.

(d) Of the plant's *total scheduled space*, 59.997 per cent of the capacity is used 39.868 per cent of the time, or *an average plant use of 23.93 per cent (OT)*.¹

2. Accessory space is 53.239 per cent of the total space.

C. IOWA STATE COLLEGE OF AGRICULTURE AND MECHANIC ARTS.

1. Instructional space is 44.157 per cent of the total space.

(a) Scheduled space is 66.082 per cent of the instructional and 29.177 per cent of the total space.

By the *method of averages*—

(a) 46.757 per cent of the classrooms' capacity is used 41.72 per cent of the time, or an average use of 19.508 per cent.

(b) 58.541 per cent of the laboratories' capacity is used 56.25 per cent of the time, or an average use of 32.928 per cent.

(c) 50.512 per cent of the mixed space capacity is used 45.65 per cent of the time, or an average use of 23.057 per cent.

(d) Of the plant's *total scheduled space*, 53.642 per cent of the capacity is used 49.299 per cent of the time, or *an average plant use of 26.44 per cent (OT)*.¹

2. Accessory space is 49.8 per cent of the total space.

RESULTS AND CONCLUSIONS.

Reference to the tables in the appendix will disclose many detailed comparisons which should be valuable to all concerned with the problem of effective utilization. The subject is too great for more than a cursory outline of the salient points.

All the facts, condensed by the same process and brought to a common focus, indicate clearly that the State college at Ames is making the most use of its plant, comparatively, and that the State university, if it feels the pressure of congestion at any point, may find a solution of its difficulty in changes in the rostering of students.

The occupancy ratio, however, may reasonably be low in some cases because of physical limitations, in addition to student roster factors. The room capacity, especially in the older buildings, may be large (40), while a section of students may, by the settled and wise policy of a department or institution, be limited to 20 or less. The

made, and there the local conditions make a fair comparative basis impossible. The most that can be said is that the figures given here indicate the need of further careful study and collection year by year of data of this type.

¹See note on p. 105.

desired size of the section has much to do with the utilization indicated by the occupancy ratio. This matter deserves thorough consideration with a view to making needed alterations and fitting future buildings to actual needs, but it should be remembered that when space is used wholly or partially for advanced or research work, the "O" ratio will always be low.

For theoretical purposes it has been assumed throughout this analysis that there is no congestion until the plant is run full time, or 44 hours per week; "microscopic light" and like considerations which would argue against such full-time production are largely matters of individual conviction. Many of the laboratories at Columbia University are working on a full-day schedule and by artificial light until 10.30 at night, and there is no vital difference in the latitudes of the three Iowa educational centers and that of New York, if daylight is to be taken as the determinant of the use or idleness of a room.

As to the facts of the general comparison between the simple OT ratios, the State college at Ames leads in effectiveness of utilization. This is very probably the result of the work of its "efficiency committee." The officials at Ames are to be commended for the independent effort they have already made to know their plant.

The commission strongly urges that at each institution the data on rooms be filed in one place, under the charge of a single officer. The lack of system in this matter in certain institutions may be illustrated by the case of a member of the faculty of one of them who wanted a classroom at 8 o'clock Wednesday mornings, and having none under the immediate control of his department, was without the means of finding such a vacant room. No individual, office, or committee had on file a complete roster or tabular view of the plant. The latent possibilities were unknown.

There is, unfortunately, no other State or National survey of college buildings, so far as is known, on the same or any other comparable basis, that would furnish a norm with which to compare the present operations in Iowa. What the commission has done is to furnish material for the establishment of an "Iowa norm" and detail a method by which the building committee of the board of education may test the validity of claims made upon it by the several institutions.

LIBRARIES AT THE STATE UNIVERSITY AND STATE COLLEGE.

The commission is unanimous in its opinion that library facilities are badly needed at the State university and the State college (Ames), and that the necessary construction should precede any other pending plans for new buildings, especially at the State university.

THE STATE UNIVERSITY.

The statements made by Dean Wilcox and Acting Librarian Roberts, of the State university, in the 1914 Report of the State Board of Education, pages 71 and 84, respectively, were fully substantiated by the commission's personal observation of the library conditions and the data available on the subject. In the first place, the accessions are too highly decentralized to make the administration effective or the function of the department vital. The physical arrangement of the library proper, in the Natural Science Building, is to the disadvantage of officers, students, and faculty.

THE STATE COLLEGE.

The library problem is as pressing at the State college, and demands immediate consideration. With 2,000 square feet of corridor space in Central Hall partitioned off to accommodate overflow books, and cramped administrative space, there is real need for a library building large enough to house the present collections and make due allowance for the ever-growing literature on agriculture and allied subjects.

It is suggested that when permanent quarters are constructed at either institution the building be of the expansive unit type, rather than a *complete* building. It will then be possible to extend the stack space as the collections are increased, and to add later an auditorium section (in both institutions) if cost prohibits the inclusion of the auditorium in the original construction. The commission does not commit itself to the combination of library and auditorium as a permanent feature of construction.

THE PROPOSED BOTANY AND GEOLOGY BUILDING AT THE STATE UNIVERSITY.

The board has asked specifically for advice on the matter of placing the proposed new botany and geology building¹ next in order of construction. The commission has studied the question with all possible care and submits the following statement of facts and opinions, together with recommendations.

The Old Science Building, now occupied conjointly by the departments of botany and geology, is a nonfireproof structure. Since its construction in 1884 it has been little improved to meet modern teaching demands. If the commission's information is correct, the expectation of moving into other and more adequate quarters has inhibited requests for needed improvements in the past four or five years. Requests may have been made, but no record of them was

¹ The commission is aware that the plans for this building have been approved by the legislature, but it understands that until the construction is definitely ordered the State board is able to allow other building plans to take precedence of this.

obtainable. In this connection special attention is called to this pertinent excerpt from the appended tables:

TABLE 8.—*Space and occupancy of buildings at the State university.*

Factors of comparison.	Old Science Building.	Natural Science Building.	Whole plant.
1. Total area.....square feet.....	21,227	68,881	.....
a. Instructional space.....do.....	9,539	9,540	.....
(1) Per cent of total.....	44.9	13.8	39.75
b. Accessory space.....square feet.....	10,750	48,369	.....
(1) Per cent of total.....	50.6	70.2	54.73
c. Combination space.....square feet.....	938	10,972	.....
2. Scheduled space:			
a. Average ratios of use—			
Occupancy (O).....per cent.....	47.08	42.658	53.732
Time (T).....do.....	34.304	54.166	36.852
OT.....do.....	16.155	23.143	19.815
b. Average area per working unit—			
Classrooms.....square feet.....	23.150	14.650	22.076
Laboratories.....do.....	25.775	43.250	155.300
Mixed space.....do.....	36.800	34.500	246.080

¹ Cf. high unit for home economics and physics (appendix).

² Cf. high unit for home economics; both raise plant average above normal.

It will be noted that there is no apparent congestion in teaching space now used by the botany and geology departments, and that these departments do not seem to be making as good use of their physical facilities as the department of zoology by about 7 per cent average.

The primary consideration of this specific problem becomes, then, not one of teaching, but of museum space. It is granted that such valuable collections as are now in the possession of the departments of botany and geology should be safeguarded against destructive forces. But certain general conclusions with regard to museum space have the indorsement of all the authorities consulted by the commission:

1. The scheme of a complete museum is impossible without practically unlimited funds¹ and time.

2. A State university museum, where there are not large numbers of specialists in zoology, needs a basic type collection for the purposes of the general students; it is important in an agricultural college that a fairly full series of insects should be in a museum as well as representatives of groups of economic importance. A consideration of the arrangement of the zoology museums will show that the collections are too much spread out, with waste of space, according to the best modern practice; that is to say, as regards zoology,

¹ On the basis of the areas reported by Supt. Fisk, it is found that 42.1 per cent of the building, excluding corridors, is occupied by museums. According to the calculations of the commission, which include corridors and are based on later reports from the superintendent, 27.4 per cent of the building is used for museums. Neither percentage includes the attic storeroom for specimens. Cost to construct building, \$275,372.05; investment by State in the zoology museums (27.4 per cent), \$75,451.94 (space only).

it is not necessary for teaching purposes at the State university to display all the variations of a species. There is evidently no limit to the ambitious concept of a complete museum, nor is there limit to the resulting expense.

The exhibition of an abundance of specimens has unquestioned cultural value, provided geographical location and flow of population will give the exhibition "circulation" enough to warrant its cost. But such by-purpose is outside of the primary function of teaching and investigation. Highly specializing research students should go to centers of collection, such as Chicago, New York, or Naples, rather than expect all research material to be concentrated within their own State borders. The modern tendency is *not* to have such large collections for teaching purposes.¹

If the present departmental policy is to be continued, involving the present or prospective use of as much storage space as the museum itself occupies, and the conversion of the present auditorium into a "museum of the State of Iowa" when the new library-auditorium building is built, it is the commission's opinion that the zoology museum should be given either enormously larger grants from the State treasury or an immediate endowment. In this matter the commission has reenforced its own judgment with that of experts on general museum problems. Quite without reference to any specific conditions in Iowa, the opinions summarized above were received.

The Natural Science Building, as originally contemplated, was to house zoology, botany, and geology. This plan was later modified to include temporarily a library and auditorium. Over 15,654 square feet² would be released to botany and geology by the removal to a new building of the library (all rooms in the building now used for library purposes, 10,007 square feet) and the auditorium (not including stage, balcony, or the possible area to be gained by flooring the present balcony well, 5,647 square feet). With reasonable compression of the present zoology museums, as discussed above, there would be available what would seem to be ample space for at least botany or geology. It is scarcely correct to pronounce this space inadequate by comparison with the space now occupied by the department of zoology, for the departments of botany and geology would hardly ask a new building of their own to cost the State \$200,000 unless there was a serious lack of space where they were originally provided for.

Botany, geology, and zoology could all overlap in the use of class (recitation and lecture) rooms, possibly in some of the laboratories, but *not* in museums. More museum space, comparatively, will

¹ Ornithologists teach primarily from skins and not from stuffed specimens such as are abundantly found at Iowa City.

² Commission's figures; balcony and stage of auditorium not included.

be needed by zoology than by the other two departments, because of the greater bulk of the specimens, especially the vertebrates. Twenty mineral specimens will go into about the same space as 20 botanical specimens; 20 zoological specimens demand more.

The proper ratio of storage to display space should be more nearly *one* for storage to *three* for display, than one or two to one. Given 100 per cent museum and laboratory space that can not overlap in a building, it might be said, roughly, that the allotment should be 30 per cent to botany, 30 per cent to geology, and 40 per cent to zoology.

While the facts cited indicate that the present demands may be met by such arrangements as have been suggested, and while it is felt that library and auditorium are at present the most pressing needs, and that the readjustments here outlined would make possible the better accommodation of existing departments, nevertheless it should be pointed out that the university will undoubtedly soon need more than one new building, and that adequate provision for the departments of geology and botany should be included in future building plans.

If the Old Science Building will not yield to modernization by paint, illumination, and rearrangement, in order to accommodate satisfactorily the remaining department (if both botany and geology can not enter the Natural Science Building), the board is then faced only with the easier problem of erecting a simple fireproof structure for that single department.

Alterations will be necessary in the Natural Science Building before the new tenants can be properly housed, and the Old Science Building should be cleaned up, on general principles if for no other reason.

CONCLUSIONS.

In conclusion the commission submits the following considerations to the attention of the board as bearing on the building policy for the future:

1. At a State school no new building should be erected primarily to provide teaching space while suitable teaching space is available in any building on the campus, regardless of the name in which the cornerstone of that building was laid. It is evident that there can be no proprietary control by a department or an individual over space provided by the taxpayers for educational purposes. The principle of the most advantageous use of space for the good of the whole institution should prevail.

2. When a new building is erected, the tendency of any department to spread out over all available space (including some provided for future growth) is one which can be easily checked by the governing authorities. Later contraction or compression is always difficult.

3. Dormitories are not a part of the instructional plant proper, and wherever erected should be self-supporting or even profitable investments for the State. The commission is informed that other colleges are earning as much as 6 per cent net on such investments.

4. Further investigation may reveal a local tradition that work should be concentrated largely in forenoons or afternoons, the time ratio reflecting the extent of the idle time. Any such tradition should be made to justify itself under searching criticism, or be forthwith abandoned. This problem is worthy of especially careful consideration.

The conclusions of the commission are based on as complete a factual study of the problem as circumstances permitted.

In the course of this investigation the commission has become more and more convinced that "needs" can be determined by the several institutions only on the basis of definite surveys of existing facts. Therefore, as a final recommendation, it is urged that the roster committees of the institutions be stimulated by the board's requirement that all askings for buildings henceforth be accompanied by some definite survey of the situation which it is proposed to remedy by new construction, and that the increased or decreased effectiveness of use be brought to the attention of the State board periodically by means of reports similar to those outlined in this statement. A complete study of the possibilities of the present facilities is fully warranted by the large values at stake.

SUMMARY OF RECOMMENDATIONS.

1. At the State university:

- a. The construction of a library and an auditorium as the greatest present need.
- b. The accommodation of one or both of the departments of botany and geology in the space thus released in the Natural Science Building.
- c. The remodeling of the Old Science Building and the construction of a simple fireproof building to house the remaining department and its important collection (in case only one is accommodated in the Natural Science Building). The definite inclusion in future building plans of provisions ultimately adequate for the departments of geology and botany.

2. At the State college:

- a. The early construction of a library and an auditorium.

3. A definite survey of the effective use of present building facilities along lines suggested in this report.

[The following graphical representations of the relations of instructional and accessory space to the total space apply only to the selected buildings as stated. Such relations have no significance except to indicate the nature of the investment in each plant from the standpoint of effective utilization. Combination space is not included in these graphs.]

"OT" RATIOS.

1. AVERAGE USE OF CLASSROOMS.

100 per cent—Standard of measurement.

35 per cent.

Very high percentage of use—Arbitrary estimate.¹

18.39 per cent.

State University of Iowa.

23.34 per cent.

Iowa State Teachers College.

19.508 per cent.

Iowa State College of Agriculture and Mechanic Arts.

19.315 per cent.

State University of Iowa.

22.83 per cent.

Iowa State Teachers College.

32.928 per cent.

Iowa State College of Agriculture and Mechanic Arts.

2. AVERAGE USE OF LABORATORIES.

21.76 per cent.

State University of Iowa.

24.94 per cent.

Iowa State Teachers College.

23.057 per cent.

Iowa College of Agriculture and Mechanic Arts.

3. AVERAGE USE OF MIXED SPACE.

19.815 per cent.

State University of Iowa.

23.93 per cent.

Iowa State Teachers College.

26.424 per cent.

Iowa State College of Agriculture and Mechanic Arts.

RELATION OF INSTRUCTIONAL SPACE TO TOTAL SPACE.

39.757 per cent.

State University of Iowa.

44.876 per cent.

Iowa State Teachers College.

44.157 per cent.

Iowa State College of Agriculture and Mechanic Arts.

¹ See notes, page 105. No data available for accurate statement.

RELATION OF ACCESSORY SPACE TO TOTAL SPACE.

54.732 per cent.

State University of Iowa.

53.239 per cent.

Iowa State Teachers College.

49.8 per cent.

Iowa State College of Agriculture and Mechanic Arts.

Chapter XIII.

BUILDING COSTS.

In addition to the foregoing analysis of the use of buildings at the three State institutions, the commission has also undertaken a study of the square feet of floor space provided for each student and the cost thereof. It is hoped that the results of the study, taken in connection with those recorded in the preceding chapter, may help the authorities to estimate the extent of building operations which will be required to house adequately the educational work of the institutions as the enrollments increase. It should be emphasized, however, that this study represents a different aspect of the building problem from that just discussed. Quite different factors are used to obtain the results.

In listing buildings occupied for educational purposes, an attempt has been made to separate them roughly into two groups: "Buildings used in common," as library, gymnasium, heating plant, auditorium; and "buildings used as classrooms and laboratories." This division can be only approximate, as many buildings contain rooms of both classes. The total floor area of each building has been taken, including corridors, closets, stairs, etc. Dormitories and residences have been omitted. Where dormitories are provided by a State, it is only reasonable that the income from them should fully cover all maintenance, cost, repairs, and renewal of equipment and pay from 3 to 6 per cent income on the investment. The erection of dormitories must be based on a desire to provide adequate living accommodations for students and is entirely separate and distinct from the provision of educational buildings.

In determining the square feet of floor space provided per student, the estimated *average attendance* during the present college year, 1915-16, was taken. This average attendance has been calculated according to the method described in Chapter II. It will be apparent that in considering building accommodations we are only concerned with providing adequately for the average number actually on the campus at one time during the college year. Using these factors, the

following summary tables have been compiled. It is to be noted that all buildings except dormitories and residences are included in this study, whereas the study of the utilization of space concerned only 10 buildings at the State university, 10 at the State College of Agriculture and Mechanic Arts, and 8 at the State Teachers College.

TABLE 9.—*Cost of buildings of Iowa State educational institutions—Enrollment.*

Items of comparison.	Cost of buildings.	Square feet of floor surface.	Cost per square foot of floor.	Cost per student.	Square feet of floor per student.	Average enrollment of students.
STATE UNIVERSITY OF IOWA.						
Buildings used in common.....	\$380,125	124,028	\$3.07	\$146	47.7	.....
Buildings used for classes and laboratories.....	1,512,859	494,351	3.06	582	190.0	.....
Total.....	1,892,984	618,379	3.06	728	237.7	.....
Students in 1915-16.....						2,600
IOWA STATE COLLEGE.						
Buildings used in common.....	435,962	131,323	3.32	167	50.5	.....
Buildings used for classes and laboratories.....	1,548,085	513,157	3.02	595	197.5	.....
Total.....	1,984,047	644,480	3.17	762	248.0	.....
Students in 1915-16.....						2,600
Farm buildings.....	45,700	57,390	.80	17	20.7	.....
IOWA STATE TEACHERS COLLEGE.						
Buildings used in common.....	388,000	150,712	2.58	222	86.0	.....
Buildings used for classes and laboratories.....	498,000	272,714	1.82	284	156.0	.....
Total.....	886,000	423,426	2.10	506	242.0	.....
Students in 1915-16.....						1,750

Cost per square foot of floor space in some of last buildings erected.

Teachers college:

Vocational building.....	\$2.72
Library.....	3.25

State college:

Chemistry building.....	2.80
Veterinary building.....	3.04

University:

Women's gymnasium.....	2.46
Physics building.....	3.48

Average cost per square foot floor..... 2.96

It will be seen that an average of 243 square feet of floor space is at present provided. The average cost of six of the large buildings recently erected is \$2.96 per square foot of floor space. This amounts to \$720 per student. Since a considerable quantity of furniture and equipment must be provided for each new building, this figure is probably 10 per cent too low; \$750 or \$800 per student can probably be taken as a safer estimate. Hence, if the present per capita allowance of space is to be maintained, it seems reasonable to anticipate

an expenditure for additional buildings of \$75,000 to \$80,000 for each 100 increase in the actual average attendance. With approximately \$2,000,000 worth of buildings in use at the university and at the State college, respectively, an increase in the utilization of the buildings of 10 per cent over the present practice would be the equivalent of \$200,000 worth of additional buildings at each place. Further, the State board must anticipate that from time to time some buildings will be advantageously replaced by more modern structures. Some of the principal considerations, then, which the commission believes that the State board should take into account in determining its building policy for the future are given in the following summary of recommendations.

SUMMARY OF RECOMMENDATIONS.

1. An annual allowance of 2 per cent of the cost of buildings for repairs and renewals of furniture.
2. The replacement of worn-out or antiquated buildings by modern structures of the same capacity.
3. The realization of the necessity of appropriating \$75,000 or \$80,000 worth of buildings to provide for every addition of 100 to the average attendance after the limit of the utilization of the present space has been reached.

Chapter XIV.

THE PHYSICAL EDUCATION OF WOMEN.

Although not specifically requested to do so, the commission has undertaken to examine the conditions under which physical training is administered to women at the State higher institutions. The matter was forced upon the attention of the members of the commission during the course of their visits and was regarded as of such intrinsic importance as to merit all the consideration which the commission was able to give it. As the result of the investigation the following brief statement is submitted, accompanied by a recommendation.

Physical education is now required of all women students, usually for two years of their course, in the State higher institutions of Iowa. In view of this requirement it is highly important that the facilities provided should be adequate, that the relation of the department of physical training to the administrative departments should be intimate, and that the authority delegated to the physical director should be well defined. Only in this way can the State be

absolved of its supreme obligations for the preservation and the upbuilding of the health of its women students.

The new gymnasium at the State university is an excellent, well-equipped, fireproof structure. Since all young women in the university are required to enroll in gymnasium classes, the commission commends the administrative organization which subordinates the gymnasium to the office of the dean of women. This is a particularly happy arrangement in view of the fact that the dean of women registers the women students and acts as course adviser for all freshmen and sophomore women.

While the gymnasium accommodations for women at the State college of agriculture and mechanic arts are limited and will soon be outgrown, the conditions are admirable in every respect and the administration excellent. It is somewhat unusual to find a department of physical education organized as a part of the division of home economics, but, since practically all women at that institution are enrolled in home economics courses, this arrangement makes possible an effective cooperation between the authorities charged with the mental and those responsible for the physical training of women students. It appears to work satisfactorily.

The gymnasium facilities for women at the Iowa State Teachers College are inadequate and the conditions surrounding the work in physical education unsatisfactory, especially with respect to the supply of shower baths and towels and the use of the swimming pool.

The commission recommends that a regular woman physician be employed at each of the three State institutions, whose duty it shall be to advise all women students as to the extent and type of physical training required of each and to exercise general supervision over the health of women students. It is, in the commission's judgment, an indefensible practice to intrust, either directly or by tacit consent, the administration of curative treatment of serious physical ailments to any but regularly trained physicians.

RECOMMENDATION.

The appointment of a regular woman physician at each of the three State institutions to supervise the physical training and the health of women students.

Chapter XV.

THE WORK AND REMUNERATION OF THE INSTRUCTIONAL STAFFS OF THE IOWA STATE INSTITUTIONS.

Highly significant of the standards and administrative efficiency of an educational institution are the amount and character of the work demanded of its instructors and the salaries they receive for their services. The commission has judged that a study of these matters should form a part of its investigations. The board of education, also, in its original invitation (mentioned in the first paragraph of the introduction) to the Commissioner of Education to undertake the survey, specifically raised the questions: Are the classes of proper size, considering economy and efficiency? And, considering the subjects taught, are the members of the instructional staff teaching the proper number of hours a week? In this chapter an attempt is made to answer these questions, to discuss various other matters closely related to them, and to formulate certain principles which it is hoped may be useful to the institutions in the future.

In any college or university the administration determines, through the courses of study adopted, the policy of the institution in regard to the average number of hours per week a student is to be under instruction in lecture, quiz, and laboratory. With this policy fixed, the administration faces the problem of providing an adequate amount of this instruction of the highest quality possible for all students entered.

Some conclusions as to what is an adequate amount of instruction from the point of view of the individual student are generally accepted:

(a) In lecture a professor may meet effectively as many as can comfortably hear and see him.

(b) In recitation or quiz, 30 in a section is probably the largest number than can be effectively handled, but the desirable maximum for classes of this type would be from 20 to 25.

(c) In laboratory work it is commonly agreed that one instructor should be provided for every 15 or 16 students.

Larger numbers in quiz or laboratory sections seriously curtail the attention accorded by the instructor to each individual student.

The number of lecture, laboratory, and quiz sections which one instructor can meet in a week will depend on the character of the work, whether it is elementary or advanced, whether it involves reading a large amount of written work, and whether it consists entirely of separate courses or includes two or three sections of the same course. It will also depend on the amount of outside reading, writing, and research which he is expected to do. In every case a certain

variable amount of administrative and committee work will be carried by the members of the faculty.

In the following paragraph some standards are suggested which may be used to test the loads of the members of the teaching staffs of various types of institutions and which may help administrative officers to remedy an uneven and inequitable distribution of the teaching burden. In this discussion the "student-clock-hour" of instruction is taken as the unit. The term may be defined thus: One student under instruction in lecture, quiz, or laboratory for at least 50 minutes net represents one student-clock-hour. For example, 20 students meeting four hours a week in recitation represent 80 student-clock-hours.¹

A study of any department at once makes it evident that no definite number of student-clock-hours can be fixed for each instructor, but an average for a department may be set up. In a university, or in an institution where research work is encouraged and expected, it seems reasonable to expect a department to carry, on the average, 250 student-clock-hours per instructor. In a distinctly undergraduate college, where research is limited and where little or no graduate work is conducted, a departmental average of 300 student-clock-hours per instructor may perhaps be taken as the reasonable norm. It must be noted also that, in an institution whose program is made up largely of laboratory work, the average number of student-clock-hours per instructor will be higher than in an institution whose program consists chiefly of nonlaboratory courses.

Concerning the quality of instruction, something may be inferred from the salaries paid. Colleges and universities of the first rank must employ well trained and experienced teachers, and must pay them salaries large enough to enable them to support a family modestly and to keep in touch with the progress in their several fields of learning through attendance on the national meetings of the scholars in those fields. The practice of the stronger institutions in this country indicates that the average salary for a department should be at least \$2,000 a year. In the judgment of the commission, this amount should be regarded for the time being as the reasonable minimum average in collegiate departments, especially in view of the recent remarkable advance in the quality of high-school instruction and in the remuneration which it commands. In departments that expect to retain men of distinction a higher salary must be paid.

¹ It should be emphasized that this is a different unit from the "credit hour" or "semester hour." Usually two or three hours of laboratory work are required as the equivalent of one hour recitation, where semester credit hours are considered. The "student-clock-hour" here used as the unit does not discount laboratory hours, but counts laboratory, lecture, and quiz exercises equally, hour for hour. A student in chemistry one hour in lecture, one hour in quiz, and four hours in laboratory in a week would be counted as receiving six student-clock-hours of instruction.

If the curriculum of an institution demands that each student shall be under instruction on the average for 20 hours a week in lecture, laboratory, and recitation, then for every 1,000 students 20,000 student-clock-hours of instruction must be provided by the administration. If instructors carry an average of 300 student-clock-hours each, 67 instructors will be required. It is also clear that, with a fixed sum for institutional maintenance, the best salaries can not be paid unless the average load of student-clock-hours closely approaches the desirable maximum. For instance, if an institution providing 20,000 student-clock-hours of instruction has \$134,000 to spend on teachers' salaries and employs 80 instructors instead of 67, the average load of student-clock-hours will be reduced, but so will the average salary.

Credit value of courses.—In general an instructor dealing with elementary or intermediate classes can do more effective work by teaching a few courses three, four, or five hours a week each than by teaching a greater number of courses of less credit value. While one and two-hour courses may be justified by special conditions, such courses should, as a rule, be discouraged as uneconomical of teachers' and students' time. The commission is of the opinion that an elementary course three, four, or five hours for one semester can be more profitably taught and studied than one of one or two hours for two semesters.

Size of classes.—Classes of five students or less can rarely be justified except in advanced work or in the graduate school. Courses enrolling 10 or less are expensive and should not be given unless the need is fully demonstrated. Many small classes indicate in some cases the lack of adequate study of curriculum or schedule by the administrative officers, and in others an undue effort by departments to serve the whims or the convenience of students in order to build up departmental enrollment. Large classes, on the other hand, unless they are lecture classes, usually entail inferior educational results. Classes of over 30 are at least open to question. Any considerable number of them generally shows a need for more instructors, or a poor distribution of students or instructors.

Below are summary tables showing for each of the three State institutions the average salary paid in each department; the average number of student-clock-hours carried by the instructors in each department; the average salary paid by the institution; the average number of student-clock-hours carried by each instructor; the average number of student-clock-hours carried by each student; the number of courses given respectively one, two, three, four, and five hours a week; the number of sections having from 1 to 5 students, 6 to 10 students, etc., and the ratio of each of these groups of courses to the total number of courses given at the institution.¹

¹ For detail tables from which these summaries have been compiled, see Appendix, p. 158.

TABLE 10.—*Number, salaries, and work of full-time instructors in liberal arts and applied science in University of Iowa, 1914-15.*

Departments.	Full-time instructors. ¹	Average salary.	Average student-clock-hours taught by instructors in department.		Increase in departmental salary budget, 1915-16.
			First semester.	Second semester.	
Botany.....	6	\$1,517	119	160	\$900
Chemistry.....	11½	1,430	178	130	300
Education.....	5½	2,300	200	200	15,780
English.....	12½	1,995	243	237	6,100
Public speaking.....	2	1,325	241	230	450
Geology.....	4	1,900	486	501	1,000
German.....	7	1,683	391	329	1,450
Greek.....	1½		71	125	.....
History.....	5	1,960	251	250	4,425
Latin.....	3	2,200	157	144	.....
Mathematics.....	7½	1,580	234	160	550
Philosophy and psychology.....	5	2,300	275	269	2,600
Physics.....	6	1,634	303	280	1,075
Economics and sociology.....	5½	2,200	331	388	7,500
Political science.....	3½	1,690	296	356	1,850
Romance languages.....	4	1,625	442	361	3,000
Zoology.....	8½	1,685	279	253	650
Home economics.....	3	2,133	376	328	4,000
Applied science.....	20½	1,800	220	171	.....
Total.....	119½	213,676	31,605	28,634	.....
Average.....		1,790	264	210	.....

¹ By a "full-time instructor" is meant an instructor giving his entire time to teaching. In the case of men giving part time to the State Experiment Station a proportional fraction of their time and salary was credited to teaching. Instructors teaching half time on a small salary and devoting the balance of their time to study are counted as one-half instructors.

The enrollment of students was approximately 1,665;¹ average student-clock-hours to the student, 19.

It will be noted that certain departments are manifestly overloaded and should be relieved. Other departments could carry a larger load without being overburdened.

Credit value of courses.—There were 30 sections having one hour per week, 185 sections with two hours, 82 sections with 3 hours, 30 sections with 4 hours, 15 sections with 5 hours, and 16 sections as arranged.

The commission thinks that better results could be obtained in introductory, elementary, and intermediate courses, with some saving of strength, by the reduction of the number of one-hour and two-hour classes. This might be done in many cases by offering three or four or five hour courses for one semester in place of one or two hour courses for two semesters.

Size of sections.

Students.		Students.	
95 sections.....	1 to 5	43 sections.....	31 to 40
80 sections.....	6 to 10	15 sections.....	41 to 50
Per cent, 39.		9 sections.....	51 to 60
120 sections.....	11 to 20	4 sections.....	61 to 70
77 sections.....	21 to 30	1 section.....	71 to 80
Per cent, 44.		2 sections.....	81 to 90
		2 sections.....	110 to 130
		Per cent, 17.	

¹ The entire enrollment was not studied; for example, the dental school, the medical school, and others were omitted.

TABLE 11.—*Number, salaries, and work of full-time instructors in the State college of agriculture and mechanical arts.*

[The data below refer only to collegiate students and the courses offered for their instruction in the various departments.]

Departments.	Full-time instructors.	Average salary.	Average student-clock-hours taught by instructors in department.	
			First semester.	Second semester.
Agricultural editing.....	3 $\frac{1}{2}$	\$1,980	99	188
Agricultural journalism.....	1 $\frac{1}{2}$	1,730	189	252
Agricultural engineering.....	6 $\frac{1}{2}$	1,590	495	455
Animal husbandry.....	7 $\frac{1}{2}$	2,170	528	517
Bacteriology.....	2 $\frac{1}{2}$	1,850	164	342
Botany.....	6 $\frac{1}{2}$	1,490	423	349
Chemistry.....	24 $\frac{1}{2}$	1,080	430	372
Civil engineering.....	8 $\frac{1}{2}$	1,820	376	373
Dairy.....	4 $\frac{1}{2}$	1,840	197	349
Economical science.....	3	2,030	310	168
Electrical engineering.....	4	1,875	144	150
English and literature.....	15	1,275	201	160
Home economics.....	15 $\frac{1}{2}$	1,320	346	321
Farm crops.....	7 $\frac{1}{2}$	1,630	387	320
Horticulture.....	5 $\frac{1}{2}$	1,500	286	206
Mechanical engineering.....	15	1,475	426	430
Physics.....	9 $\frac{1}{2}$	1,490	266	220
Zoology.....	7 $\frac{1}{2}$	1,550	280	456
Mathematics.....	12	1,370	262	235
Public speaking.....	3	1,133	132	108
Forestry.....	2 $\frac{1}{2}$	1,740	160	164
Geology and mineralogy.....	2 $\frac{1}{2}$	2,380	87	91
History.....	2	1,725	95	308
Soils.....	3 $\frac{1}{2}$	2,090	495	304
Modern languages.....	6	1,325	234	313
Music.....	9 $\frac{1}{2}$	1,125	232	370
Psychology.....	2	2,250	278	211
Structural design.....	1	2,500	115	443
Veterinary medicine.....	9	2,065	302	236
Total.....	190	297,944	61,069	58,354
Average.....		1,565	322	305
Enrollment of collegiate students.....			2,522	2,497
Average student hours per student.....			24.2	23.3

Credit value of courses.

Credit hours per week.		Credit hours per week.	
65 classes had.....	1	1 class had.....	3 $\frac{2}{3}$
6 classes had.....	1 $\frac{1}{3}$	28 classes had.....	4
17 classes had.....	1 $\frac{2}{3}$	7 classes had.....	4 $\frac{1}{3}$
126 classes had.....	2	1 class had.....	4 $\frac{2}{3}$
11 classes had.....	2 $\frac{1}{3}$	29 classes had.....	5
11 classes had.....	2 $\frac{2}{3}$	1 class had.....	5 $\frac{2}{3}$
84 classes had.....	3	5 classes had.....	6
11 classes had.....	3 $\frac{1}{3}$		

It seems to the commission that some reduction in the variety of hours' credit offered would be advisable and also a reduction of the number of one and two hour courses. It should be noted, however, that at this institution an unusually large per cent of the students' time is spent in the laboratory, where three hours' work is required for one hour of credit. This explains the fractional credits.

Size of sections.

	Students.		Students.
162 sections-----	1 to 5	21 sections-----	51 to 60
149 sections-----	6 to 10	9 sections-----	61 to 70
Per cent, 27.5.		5 sections-----	71 to 80
405 sections-----	11 to 20	5 sections-----	81 to 90
335 sections-----	21 to 30	1 section-----	91 to 100
Per cent, 56.6.		10 sections-----	Over 100
92 sections-----	31 to 40	Per cent, 15.9.	
39 sections-----	41 to 50		

It is to be noted that at the State college 136 to 144 semester hours' credit are required for graduation, as against 120 semester hours at the university, exclusive of physical training and military drill, and 120 at the State Teachers College, exclusive of physical training and work in literary societies. It will also be observed that each student at the State college carries about 24 student-clock-hours of instruction as against 19 or 20 at the other institutions.

TABLE 12.—*Number, salaries, and work of full-time instructors in Iowa State Teachers College, 1914-15.*

[The following data refer to the collegiate enrollment only, including all students in the two-year and four-year courses, entrance to which is based on a four-year high-school course.]

Departments.	Full-time instructors.	Average salary.	Average student-clock-hours taught by instructors in department.				Increase in departmental salary budget, 1915-16.
			Summer.	Fall.	Winter.	Spring.	
Education.....	7	\$1, 871	650	535	527	485	.....
Teaching.....	12	1, 233	327	143	148	229	\$1, 920
English.....	7	1, 714	354	361	393	366	.....
Latin.....	2	1, 850	110	165	183	156	.....
German and French.....	2	1, 700	258	335	328	233	.....
Mathematics.....	1	2, 300	595	245	219	220	.....
Physics and chemistry.....	4	1, 575	348	316	222	240	.....
Botany, agriculture, geology ..	4	1, 850	650	446	331	746	200
History.....	2	1, 450	400	440	393	403	.....
Government.....	1	2, 200	766	287	180	295	.....
Economics.....	1	1, 800	467	321	436	366	100
Art.....	3	1, 333	492	178	353	301	.....
Music.....	3	1, 700	770	368	312	236	.....
Manual arts.....	2	1, 800	254	182	280	356	.....
Home economics.....	3	1, 166	305	243	298	238	200
Total.....	54	86, 100	17, 338	16, 609	16, 382	17, 928	.....
Average per instructor.....		1, 594	321	308	303	332	.....
Enrollment of collegiate students.....				906	949	946	.....
Average student hours per student.....				18.3	17.3	18.9	.....

The commission submits that these figures indicate a very uneven distribution of the teaching burden and an inadequate number of teachers. If a better distribution of the teaching burden could be secured by the administration, it would partly relieve the situation, but at least five or six additional instructors should have been employed in 1914-15 to carry the load of that year.

Credit value of courses.—Almost all classes meet five hours a week. While this is admirable in elementary work, especially in the work of the first two years, it seems desirable to the commission to provide shorter courses, say, of three hours, for juniors and seniors. This is in accord with the practice of most strong and progressive institutions. Such an arrangement would probably raise the standard of the upper-class work and at the same time give greater variety of election to upper-class students.

Size of sections.—The figures give the average number of sections of sizes indicated for the year 1914-15, exclusive of the summer term. Subcollegiate classes are not included.

	Students.		Students.
15 sections-----	1 to 5	19 sections-----	31 to 40
33 sections-----	6 to 10	5 sections-----	41 to 50
Per cent, 30.		2 sections-----	51 to 60
50 sections-----	11 to 20	Per cent, 16.25.	
36 sections-----	21 to 30		
Per cent, 53.75.			

TABLE 13.—*Summary of the data concerning size of sections in the three State institutions.*

Sections at—	Number of students in section.									
	1 to 5	6 to 10	11 to 20	21 to 30	31 to 40	41 to 50	51 to 60	61 to 70	71 to 80	80 and over.
University of Iowa.....	95	80	120	77	43	15	9	4	1	4
State college.....	162	149	405	235	92	39	21	9	5	16
Teachers college.....	15	31	53	38	19	5	3	.....	.....	.....

Certain interesting facts bearing on the administration of the three institutions appear in the foregoing summary. During 1914-15, 532 classes were given in which 10 students or less were enrolled (university, 175; State college, 311; teachers college, 46). The commission recommends that the officers of the institutions make a careful study of each of these classes to determine which of them were justified and which could have been omitted or postponed without material loss. Indeed, the commission is of the opinion that the administration of each institution should annually give the question of small classes earnest consideration, and that, in view of the expense involved, the organization of such classes should only be sanctioned upon presentation of evidence that they meet a real need of a deserving group of students.

In 1914-15, 285 classes of more than 30 students each were given instruction (76 at the university, 182 at State college, 27 at teachers college). The commission also recommends a study of these classes

to determine which of them were lecture classes, and therefore probably of justifiable size, and which were quiz or recitation sections, too large for the most effective teaching. As to the latter the administration should inform itself whether reductions might be effected by a redistribution of the work among the present members of the teaching staff, or whether additional instructors are needed to prevent the overcrowding of sections. Certainly in all departments where the average number of student-hours is less than 250 or 300, quiz and recitation sections of over 30 could be avoided by the proper distribution of work.

SUMMARY OF RECOMMENDATIONS.

1. The establishment of \$2,000 as the average minimum salary for collegiate departments.
2. The reduction of the number of one and two hour courses, especially in elementary work and in the first half of the college course, at the State university and the State college.
3. The reduction of the number of small classes (10 or under) at all three institutions.
4. More even distribution of teaching loads, to reduce the number of large classes (30 or more) at all three institutions.
5. The employment of several additional instructors (the number to be determined by the number of student-clock-hours to be carried) at the State teachers college.
6. The provision of a greater number of courses of less than five hours a week (three-hour courses are suggested) at the State teachers college.

Chapter XVI.

OBSERVATIONS ON STATE AND INSTITUTIONAL ADMINISTRATION.

The commission has been much impressed with certain features of the general organization of educational control in Iowa. Some of these are discussed here, in the belief that not only the board, but the people of the State, may be interested in the observations and conclusions of a group of outsiders who have approached the study of the State's problems without local affiliations and without bias.

RELATIONS OF THE STATE SUPERINTENDENT OF PUBLIC INSTRUCTION AND THE STATE BOARD OF EDUCATION.

Allusion was made in Chapter I to the lack of coordination between the office of the State superintendent of public instruction and the State board of education, with reference to the inspection and ap-

proval of high schools. The legislation which has made the office of State superintendent wholly independent of the State board of education, together with the legislative action granting subsidies to certain high schools which comply with requirements administered through the office of the superintendent of public instruction, has made possible a disparity between the criteria of standardization as represented in the recommendations and requirements of the superintendent of public instruction on the one hand and the requirements of the institutions of higher learning on the other, especially as the latter are administered through the State board's high-school inspector and his assistants. The commission is of the opinion that, even if overt conflict of authority be avoided by the forbearance, good sense, and mutual consideration of the several parties concerned, it is unwise to have perpetuated a situation which contains the constant menace of friction, tending to stimulate controversial relations among the educational institutions of the State or among the official representatives of the different divisions of its educational system. Several remedies suggest themselves.

In a number of States—for example, California, Illinois, Michigan, Minnesota, and Wisconsin—the State superintendent of public instruction is *ex officio* a member of the governing board of the State university. The commission is aware of the objection to *ex officio* members of university boards, particularly when such members are political officials not otherwise connected with the educational system of the State.¹ This objection does not seem, however, to lie against the head of the State's common schools. On the contrary, the inclusion of the State superintendent in the membership of the board of education has the very tangible advantage of emphasizing the unity of the State's educational enterprise. At present the Iowa State board of education is organically cut off from the agencies in control of the public schools, except in so far as it chooses to seek their advice. This is a serious defect in the board's relationship to the interests which it is in part designed to serve. Moreover, it appears evident that the association of the office of superintendent of public instruction with the board in the direct management and control of the higher institutions would at once bring about an understanding by each agency of the plans and purposes of the other and would do away with any further possibility of conflict in the determination of high-school standards, a matter in which both are vitally concerned.

A still more radical alteration of the State's administrative machinery, but one which seems to the commission much more likely to result in the smooth operation of all its parts, would be the extension

¹ In several States the governor and other State officers are *ex officio* members of educational boards.

of the jurisdiction of the board of education to include the public elementary and high schools and the provision for the appointment of the superintendent of public instruction by the board. Several States in which educational administration has reached a high degree of efficiency—notably Massachusetts and New York—have substantially this form of control. While it may be argued that in these States the board is chiefly concerned with the lower schools, and that the State's higher educational enterprise is not nearly of such magnitude as in Iowa, this does not seem to constitute a valid objection. The construction of the Panama Canal was directed by a commission of seven members. In other words, from an administrative standpoint, the size of the undertaking is immaterial. It is the coordination of the powers and responsibilities of the administrative officials and their executive officers that is significant.

However, if neither of these changes in the constitution or functions of the board of education seems to the people of the State desirable, the commission calls attention to the devices which have been adopted in several States to secure harmony between the governing boards of State higher institutions and the department of public instruction in the matter of high-school inspection. One of the best conceived of these, and, as far as report has come to the commission, one of the most successful, is that in force in Ohio. Its principal features are as follows: The staff of high-school inspectors consists of eight persons, appointed by the superintendent of public instruction. Two of them are not connected with any college or university, two are from the faculty of the college of education of the State university, one each from the faculties of the normal colleges at Oxford and Athens, and one each from the faculties of the normal schools at Kent and Bowling Green. The various faculty representatives on the board of inspectors devote one half the year to inspection and the other half to teaching. The classification and rating of all schools is decided by a majority vote of all inspectors, meeting together under the chairmanship of the superintendent of public instruction. A copy of the report made on each school is furnished to the school itself, and one is sent to each of the institutions from which the half-time inspectors are chosen.

The systems in force in two other States may also be mentioned briefly. In Arkansas the high-school inspector is appointed by the State university and reports both to the university and the State department of education. The object of the inspection is threefold: To determine the granting of State aid, to organize and develop high schools, and to accredit schools equipped to prepare for college. In Florida the high-school inspection is under the joint control of the State university and the State department of education. The high-school inspector is the dean of the teachers' college of the

university and reports both to the university and to the department of education. The objects of the inspection are to stimulate the development of weak schools and to accredit schools equipped to prepare for college.

The commission has no right to offer recommendations on these matters, but it desires most earnestly to call them to the attention of the board, the legislature, and the people of the State.

A second subject, also outside of its legitimate field, on which the commission feels constrained to comment, is the constitution of the board of educational examiners. This board determines the qualifications of teachers for the State and issues certificates authorizing individuals to teach. It consists at present of the superintendent of public instruction, who acts as chairman, the president of the State university, the president of the State teachers college, and two persons appointed by the governor. It will be remarked that the president of the State college of agriculture and mechanic arts is not a member of this board. Since the State college is now the recognized training school for certain groups of teachers and is preparing annually such large bodies of young people for the teaching profession, it seems to the commission a matter both of courtesy and good judgment to include the president of that college in the membership of the board of educational examiners.

THE POWERS OF THE FINANCE COMMITTEE AND THE POSITION OF THE PRESIDENTS OF THE HIGHER INSTITUTIONS.

The commission is unanimously of the opinion that to go to the bottom of the difficulties confronting the State necessitates touching upon certain other and more intimate aspects of the organization of the State board of education.

The position of the finance committee seems to demand very thoughtful consideration. Unless the functions of this body are sharply defined and restricted, it appears to the commission highly probable that within a short time many of the responsibilities generally assigned to the executives of State institutions will largely pass into the hands of the committee. If it be desired that the presidents shall become purely *educational* administrative officers, with no responsibility whatever in fiscal affairs, this can perhaps be brought about. It would certainly constitute an interesting experiment in college and university administration—an experiment which most States would prefer to have made for them by some other State. Something of the sort has been more than once suggested. The commission does not, however, understand that this was the purpose of the act creating the committee. It is, nevertheless, clear that a committee of this kind, frequently on the grounds of each institution and

by reason of this fact more intimately informed regarding their internal conditions than perhaps any member of the board, partly in consequence thereof enjoying *de facto* (whatever the theory) large control over expenditures, is likely to acquire powers which it was never intended to convey. With the best of intentions such a committee will inevitably come under the influence of particular faculty individuals or parties, and the president's position may well become decidedly anomalous. It should be emphasized that the committee was everywhere spoken of with respect and appreciation, and the commission doubts whether abler and more efficient appointees could be chosen. But more than once indications appeared that the difficulties predicted had already in some instances begun to be realized. In some cases it seems that members of the faculties have been uncertain as to whether in seeking approval for proposed expenditures they ought properly to go to the president or to the finance committee. This uncertainty is of course capable of speedy correction. Its importance here is simply as an indication of the almost inevitable tendency of a body like the finance committee, consciously or otherwise, to acquire functions commonly restricted to the presidents.

To one unfamiliar with the actual internal workings of an American State university it may seem wholly practicable to divorce the educational supervision from all fiscal control, and as already indicated this has more than once been suggested. But to persons cognizant of the actual circumstances the practicability of this plan seems open to grave doubt. Not only must there be some one whose judgment in educational matters can be trusted when expenditures for wholly new enterprises are at issue; there must also be some authority who shall determine the thousand and one questions of *detail* in expenditure within the limits of a general budgetary program. For example, who shall determine whether, of \$2,000 available in general funds, the department of botany shall be allowed to purchase certain desired and perhaps essential additions to its equipment, or instead of this the department of history be permitted to make indispensable additions to its library? Only one can be done at a time. Questions of this kind under any budgetary system are constantly coming up in the larger institutions, and it seems somewhat obvious that an intelligent college president is more likely to reach a decision based on a just consideration of the educational issues involved than any layman, however well intentioned. Illustrations of the same type might be repeated indefinitely.

Now, again, it is not the understanding of the commission that in theory the finance committee forthwith decides this kind of thing, much less that it works in a manner designed to go behind the presidents, or undermine their authority with the faculties and students.

But, as was remarked above, there can be no question that increasingly as time goes on, the more intimate knowledge of the local situations possessed by the members of this committee, as compared with most of the members of the board, must operate to confer on the committee very large power and often a decisive influence. It will in the judgment of the commission inevitably occur that the board as a whole will get further and further away from the institutions, a result which would be highly regrettable. So long as the committee is equipped, as at present, with men of ability and single-minded devotion to the interests of the State, the practical consequences of the situation, so far as concerns the measures actually approved by the board, might be quite beyond criticism. With members of another kind the influence of the committee might be disastrous, and in any case, unless the powers of the committee are carefully defined so as to avoid all possibility of interference with the legitimate influence and authority of the several presidents, there is contained here the seed of serious consequences—among others the entire unwillingness of men of first-rate character and ability to serve the State in the presidential offices. High-grade character and ability always demand, and properly demand, actual power and real responsibility.

The commission finds it difficult to believe that the exclusion from the sittings of the board of education of the presidents of the State institutions of higher education (save on receipt of special invitation) can commend itself permanently as a wise policy. It is the unanimous opinion of the commission that the present procedure subjects the presidents of these institutions to conditions that are incompatible with the dignity of their office and likely to prove provocative of serious misconceptions in the State. From one point of view the presidents, like any of the other officers of these institutions, are simply employees of the State and more immediately of the board. In a larger and truer view of the case, however, they are expert officers of the State itself, responsible for perhaps the most important part of its internal administration, and, as such, every measure ought to be taken which will insure a dignified and complete presentation to the board of the issues affecting the several institutions in their charge. The commission questions most seriously both the propriety and the ultimate efficiency of a system which gives the institutions no official representation before the board, but it leaves it entirely to the initiative of the board to call them in when it sees fit. Such a procedure inevitably puts the administrative head of an institution in the position of a suppliant for favors instead of in the position of an authorized expert presenting to the responsible authorities the interests of the institution immediately in his charge.

Moreover, under present conditions it is difficult for the executives to view their problems as concerned solely with the best service of the State rather than with the upbuilding of particular institutions. If they were regular members of the State board, even though enjoying no vote, their outlook on the situation as a whole would necessarily be at once enlarged and altered and the board would unquestionably enjoy their loyal cooperation in meeting its problems. So far from complicating the transaction of the board's business, as might be feared by some, their joint presence would allay suspicion and create an atmosphere of frankness and fair dealing which could only be conducive to the welfare of the educational interests of the State. It is therefore recommended that the presidents of the State institutions of higher education be made *ex officio* members of the board of education without power to vote.

SUGGESTIONS REGARDING INTERNAL INSTITUTIONAL ADMINISTRATION.

The commission has been impressed with the possibility of improving certain features of the internal administration of the State institutions. Some of the present practices were no doubt satisfactory when the institutions were much smaller. Their inappropriateness to present conditions is perhaps more obvious to outsiders than to those within the institutions who have become more or less accustomed to the situation and have consequently come to accept it as natural.

At the State university the commission remarked in many ways the evident absence of a definite and consecutive policy in accordance with which the institution has been guided in recent years. This is no doubt in part due to the frequent changes in the presidency, with the consequent disorganization of plans. It is probably also due to the lack of active participation by the faculty as a whole in the formulation and execution of any program for the development of the institution. The university presents rather strongly to a visitor the impression of a group of relatively autonomous departments and colleges, many of them going their own way, with little obvious regard to the interests of other departments and even less for the institution as a whole. In default of a strong continuous centralized administrative control, such a condition tends to give the pushing, and even the selfish individual, an unfair advantage over his less aggressive and more generous-minded colleague. Needless to say, the institution is not always the gainer by the results of this situation. Furthermore, certain individuals may, under these circumstances, acquire essentially vested rights and privileges which it then becomes academic sacrilege to invade. The commission is disposed strongly to urge whatever measures will create or restore a

keener sense of faculty responsibility, with a corresponding decrease of departmental autonomy. The department should be the servant, not the master, of the university.

At the State teachers college a different form of administrative policy was encountered which also seemed open to betterment. There is no question here of the usurping by the departments of powers or privileges commonly vested in the executive or in the faculty. But as an incident of the highly centralized organization, there was observed a form of procedure, several times repeated, which perhaps attains a certain administrative efficiency at the cost of a genuine educational efficiency. For example, psychology is taught in the college ostensibly for its value in the science and art of teaching. The college courses in education are given for a similar reason. But the work of the practice school in which these subjects might be expected to find their application, illustration, and correction is conducted under an entirely separate administration and with only the most nominal and perfunctory coordination with the college department. The conditions of mutual understanding and cooperation between these two divisions of the institution, which the commission had been led to expect, proved on analysis of the facts to be of the most formal character. The disparity between the theory of the relationship and the actual fact appeared to be unequivocal. The commission is not unaware of the difficulties, both educational and administrative, involved in the conduct of a practice school and the proper correlation of its work with the academic work in education; nor is it oblivious to the obvious freedom from administrative friction which ensues from a policy of mutual exclusion such as is here represented. Unquestionably it makes for administrative quiet and peace. Also unquestionably it diminishes for the students by an amount not easily estimated, the actual significance of the work in teaching, in psychology, and in education. There is also perhaps an equally great loss in another direction, namely, in the vitalizing of the work of the members of the staff of the practice school which would follow from a more intimate contact with the work of the academic division.

A similar situation exists in the lack of coordination between the rural school division, giving work in education and psychology, and the college department. Here there is no necessary loss to the students, because they do not regularly come into contact with both divisions; but it is hard to believe that a system which keeps two such cognate divisions apart from one another can be realizing at all completely on its own intellectual resources.

Again, the organization of three essentially distinct divisions of work in home economics with separate laboratories, separate staff, separate purchasing arrangements, and the like, makes for

needless multiplication of supervisory duties, to say nothing of administrative wastage at other points.¹ In the new building presumably some of these objectionable features will be remedied. But the administrative principle under which such conditions can have arisen is the object of skepticism; and unless this is corrected, the same type of difficulty will certainly occur again. An administrative coordination represented by the nominal subserviency of cognate correlated divisions of work to a central office or person outside the departments concerned may conceivably achieve desirable freedom from some forms of tension, but as represented in the instances cited at the teachers college, it is highly improbable that it could ever meet fully the genuine needs of the students for whom the institution is conducted.

Attention should also be called to the danger that the extension work now in operation at the teachers college may affect unfavorably the work done on the grounds, because of the fatigue and distraction of the staff represented. The work itself appears to be admirably conceived and thoroughly worthy of development; but unless some additions are made to the faculty, or in some other way the school hours of the teachers engaged in this work are diminished, the result is certain—impaired health, impaired intellectual resiliency, and consequent loss of efficiency in the work of instruction at Cedar Falls. On the other hand, if relief of this kind is afforded, the work will bring back to the institution in the way of enrichment and vitalizing of teaching all that it gives.

INTER-INSTITUTIONAL SENTIMENT AND ATHLETICS.

The commission has already several times referred to the unfortunate bitterness which characterizes the attitude of the partisans of each of the State institutions toward those of the others. The tendency to regard with suspicion acts of a sister institution, to impute unworthy motives to its officers and adherents—this is the principal cause of the State's educational woes. It is not an expression of generous rivalry or of wholesome competition. It represents rather a devastating blight fastened upon the whole educational system of the State. That all three of the institutions should have made such genuine progress and should have attained such commanding rank among the collegiate institutions of the country in an atmosphere so hostile to true educational advance is testimony of an amazing innate vitality. The fact indicates that fundamental organic weaknesses are lacking and that Iowa's difficulty is largely a state of mind.

The commission can not believe that the citizens of a strong and enlightened Commonwealth will much longer tolerate a situation in

¹ This question has already been discussed. See Chapter VIII.

which the most potent instruments for civic and intellectual betterment are thus blunted. It can not believe that the good sense of the State will longer permit petty institutional jealousies, founded for the most part on the merest illusions, to defeat even partially the State's educational purpose. It can not believe that the citizens of Iowa, even the most partisan minded, will much longer fail to see that the State's advantage is above the ambitions of any institution; that true institutional loyalty in any student or alumnus of a State institution means the consideration of the State's advantage first; that any student or alumnus who puts the claims of his institution above those of the State is an enemy alike to the State and to his institution.

While the commission is confident that this point of view must inevitably prevail—and it hopes speedily—nevertheless it recognizes the tenacity of existing animosities and the fact that exhortation will probably have slight effect upon them. It is led therefore to suggest one, as it believes, practical step toward the accomplishment of the desired end. This is the temporary discontinuance of intercollegiate football, and perhaps baseball, between the Iowa State University and the Iowa State College of Agriculture and Mechanic Arts.

The annual football game between the college and the university is the occasion of the revival of feuds, charges, and countercharges, the reassertion of differences and criticisms which at best have had only poor reasons for existence. The event, if the evidence is to be trusted, rarely partakes of the wholesome, generous, sportsmanlike rivalry which generally characterizes the relations between other universities in different States—for example, between Minnesota and Illinois. An enthusiastic, intelligent loyalty to an institution on the part of its alumni and friends is one of its strongest assets. Occasions which stir up such loyalty by bringing together large numbers of supporters of an institution like either of these, which is the creature and servant of the State, should be encouraged and supported, but occasions which engender misunderstandings and antipathies, with their consequent disintegrating and harmful effects, are to be avoided. That form of loyalty which finds its chief incentive and expression in hostility toward another creature and servant of the same State can not of itself and in the long run be a good thing for the State or its institutions.

For these reasons the commission recommends that intercollegiate football games at least, and perhaps baseball games also, between the two institutions under discussion should be completely suspended for a period of five or six years. This recommendation has nothing whatever to do with the larger matter of the participation of both institutions in other intercollegiate contests—for example, between

either of the institutions and the University of Nebraska or the University of Missouri or the Kansas State College. Games such as these ought to furnish the occasion for gatherings of enthusiastic and sportsmanlike alumni. They would, however, be devoid of the highly objectionable bitterness and institutional prejudices which seem to have contributed in recent years to obscure a sound and appreciative judgment of the merits of each institution by the adherents of the other.

The substitution of cooperation for competition is one of the largest and most outstanding needs in the adjustment of the relations of the two institutions. An earnest and progressive desire to cooperate by the alumni, faculty, and students of both the State college and the university should take the place of the traditional and oftentimes exaggerated rivalry which has hitherto characterized their relations in general. To magnify and perpetuate old antagonisms and fictitious differences under the guise of cultivating loyalty is to prevent the most efficient accomplishment of the State's purpose in creating these institutions.

CONCLUSION.

The commission has no desire to have its last word one of adverse criticism. In spite of the unwholesome effects of such interinstitutional sentiment as has been referred to in the preceding paragraphs, the commission would like to record its keen appreciation of the condition of the three State institutions. It considers that the State is to be congratulated upon the possession of higher schools on the whole so well conceived and well managed. It was especially impressed by the ability and devotion with which the members of the several instructional and official staffs are discharging their functions. An attitude of simplicity and straightforwardness prevails at all three institutions. The standards of all three are high and are conscientiously enforced. The high position of all three among similar institutions in the country is well known and unquestioned.

SUMMARY OF RECOMMENDATIONS.

1. The readjustment of the official relationships between the office of the State superintendent of public instruction and the State board of education.
2. The inclusion of the president of the State college of agriculture and mechanic arts in the membership of the board of educational examiners.
3. The strict definition of the powers and functions of the finance committee.

4. The inclusion of the presidents of the State higher institutions ex officio in the membership of the State board of education, without power to vote.

5. A larger measure of faculty responsibility and a decrease of departmental autonomy at the State university.

6. The closer correlation of cognate departments in the practice school and in the academic divisions of the State teachers college.

7. The temporary discontinuance of football (and perhaps baseball) games between the State university and the State college of agriculture and mechanic arts.

Chapter XVII.

GENERAL SUMMARY OF RECOMMENDATIONS.

DUPLICATION.

1. The adoption of the principle of "major and service lines of work" at the three State institutions.

2. The creation of an annual conference consisting of members of the faculties of the institutions and the State board of education, to adjust questions of overlapping not automatically determined, by the establishment of major lines for each institution.

3. The readjustment of the work in engineering at the State university and the State college, according to one of three methods:

(a) A horizontal division assigning graduate work to one school and undergraduate work to the other. (Judged at present impracticable by the commission.)

(b) The union of the two schools at one place. (Thought by the commission to be at present possibly inexpedient because of the state of public opinion.)

(c) A vertical division of work, assigning some branches of engineering to one institution and some to the other.

4. The discontinuance of the last two years in liberal arts at the Iowa State Teachers College with suggestion of three-year nondegree courses for rural and grade teachers.

5. The enlargement of facilities for practice teaching at the State teachers college.

6. The establishment of additional normal schools.

7. The addition of men to the faculty of the State teachers college, to give half of their time to instruction and half as members of the staff of the State superintendent of public instruction to the supervision of work in the normal-training high schools.

GRADUATE WORK.

8. The encouragement of the development of graduate work at the Iowa State University and the Iowa State College of Agriculture and Mechanic Arts along the major lines of the institutions.

9. The adoption of a rule by the university according graduate status to none but students having a definite proportion of their registration in courses for graduates only.

10. The determination by the university senate, or some other representative body, of the departments to be encouraged to develop graduate courses.

11. The exercise of greater care by the graduate division of the State college in admitting students from other institutions to graduate standing.

12. The creation of a standing committee on graduate work, to consist of two members of the State board of education and three members each from the institutions giving graduate work, the latter to be elected for a term of years by the graduate faculties.

LIBERAL ARTS AT THE STATE COLLEGE.

13. The strict enforcement by the State board of education of the principle that departments of liberal arts and sciences at the Iowa State College of Agriculture and Mechanic Arts shall be simply service departments; especially the revision of the work offered in the departments of economic science, geology, physics, and mathematics, to secure conformity to this principle.

14. The abandonment of courses in chemistry at the Iowa State College which neither contribute to the major lines of that institution nor reenforce the work of the experiment stations.

15. The revision of the requirements for the degree of bachelor of science in the division of industrial science, to render it impossible to secure the degree except on completion of industrial and professional courses (in contradistinction to liberal arts courses) equal in amount to those required in technical curricula.

EXTENSION WORK.

16. The strict application of the principle of the major lines of work to the development of the extension enterprises of the three State institutions.

17. The establishment of a conference on extension work composed of members of the board of education and extension officers of the three institutions to discuss projects.

DUPLICATION IN EDUCATION AND PSYCHOLOGY.

18. The imposition of no external limitation upon facilities offered at the three State institutions for giving work in home economics, agriculture, and manual training until the present force of teachers

in the State schools is equipped to meet the obligations imposed by the State law.

19. Thereafter the delimitation of work in psychology and education at the State college to the amount requisite to meet the requirements of the first-class State certificate.

20. The provision of better practice facilities at the State university.

HOME ECONOMICS.

21. The development at the Iowa State University of home economics as a service department along lines that will make it of greatest value to students majoring in other courses of study.

22. The avoidance by the university of courses that duplicate the work offered at the State College of Agriculture and Mechanic Arts in the preparation of high-school teachers.

23. The establishment at the university of special lines of work for the training of hospital dietitians

24. The provision in the near future of enlarged accommodations for the department of home economics at the State College of Agriculture and Mechanic Arts.

25. The provision of opportunities for preparation in institutional and cafeterial management at the State College of Agriculture and Mechanic Arts.

26. The provision of special courses for the preparation of trade and industrial school teachers at the State College of Agriculture and Mechanic Arts.

27. The improvement of the accommodations provided for work in home economics at the Iowa State Teachers College.

28. Reorganization of the department at the State teachers college under a single head.

SUBCOLLEGIATE WORK.

29. The continuance of subcollegiate work at the State teachers college.

30. The abandonment by the State College of Agriculture and Mechanic Arts of all noncollegiate work, except for limited short courses, in winter or in summer, for special groups of students. The establishment of corresponding work in selected high schools throughout the State under the direction of the State college.

JOURNALISM.

31. The approval of the work in journalism now offered at the Iowa State University and the Iowa State College of Agriculture and Mechanic Arts and the limitation of it to approximately its present scope.

COMMERCE.

32. The moderate expansion and better correlation of courses now offered in various departments of the Iowa State University, rather than the creation of a separate school of commerce.

UTILIZATION OF BUILDINGS.

33. At the State university:

- (a) The construction of a library and an auditorium as the greatest present need.
- (b) The accommodation of one or both of the departments of botany and geology in the space thus released in the Natural Science Building.
- (c) The remodeling of the Old Science Building or the construction of a simple fireproof building to house the remaining department and its valuable collections (in case only one is accommodated in the Natural Science Building). Adequate provision for the departments of geology and botany to be a part of any building plans relating to the immediate future.
- (d) Larger utilization of the physics building.

34. At the State college:

- (a) The early construction of a library and an auditorium.

35. A definite survey of the effective use of present building facilities along lines suggested in this report.

COST OF BUILDINGS.

36. An annual allowance of 2 per cent of the cost of buildings for repairs and renewals of furniture.

37. The replacement of worn-out or antiquated buildings by modern structures of the same capacity.

38. The realization of the necessity of appropriating \$75,000 or \$80,000 worth of buildings to provide for every addition of 100 to the average attendance after the limit of the utilization of the present space has been reached.

PHYSICAL EDUCATION OF WOMEN.

39. The appointment of a regular woman physician at each of the three State institutions to supervise the physical training and the health of women students.

WORK AND SALARIES OF INSTRUCTORS.

40. The establishment of \$2,000 as the average salary for a department.

41. The general reduction of the number of one and two hour courses, especially in elementary work and in the first half of the college course, at the State university and the State college.

42. The reduction of the number of small classes (10 or under) at all three institutions.

43. More even distribution of teaching loads to reduce the number of large classes (30 or more) at all three institutions.

44. The employment of several additional instructors (the number to be determined by the number of student-clock-hours to be carried) at the State teachers college.

45. The provision of a greater number of courses of less than five hours a week (three-hour courses are suggested) at the State teachers college.

STATE AND INSTITUTIONAL ADMINISTRATION.

46. The readjustment of the official relationships between the office of the State superintendent of public instruction and the State board of education.

47. The inclusion of the president of the State college of agriculture and mechanic arts in the membership of the board of educational examiners.

48. The strict definition of the powers and functions of the finance committee.

49. The inclusion of the presidents of the State higher institutions ex officio in the membership of the State board of education, without power to vote.

50. A larger measure of faculty responsibility and a decrease of departmental autonomy at the State university.

51. The closer correlation of cognate departments in the practice school and in the academic divisions of the State teachers college.

52. The temporary discontinuance of football (and perhaps baseball) games between the State university and the State college of agriculture and mechanic arts.

APPENDIX A.

DISCUSSION OF CERTAIN DEPARTMENTS OF IOWA STATE COLLEGE.

CHEMISTRY.

As a reinforcement of the judgment of the commission with respect to the development of the department of chemistry at the Iowa State College, comparison is made between the announcement of courses in chemistry by the college and similar announcements by the University of Wisconsin and the University of Illinois. In the latter institutions it should be noted that the department of chemistry is not merely a service department, meeting the instructional and investigational needs of the colleges of agriculture and engineering and allied experimental work. These institutions have developed strong advanced and graduate courses in general, theoretical, analytical, and applied chemistry, courses such as would be expected in a unified institution embracing a college of liberal arts and sciences, as well as colleges of agriculture and engineering, and also a great graduate school, in which the department of chemistry is a major factor. The announcements of the department of chemistry in the Iowa State College cover 109 different courses, each having a number. They represent at least 320 semester hours, after excluding 17 courses for which no credit hours are specified; 14 courses out of these 17 are "research" courses. Of the 109 courses, 8 are substantially four duplicate sets of two-semester courses, covering approximately the same ground, but having slightly varied credits to fit into curricula leading to different degrees.

The corresponding announcements in chemistry in the University of Wisconsin in 1914-15 comprised about 114 courses, and in the University of Illinois about 88 courses, of which 36 were for graduates only. The total number of semester hours represented by the 88 courses at Illinois was about 273. Each semester's work at Illinois and Wisconsin has been computed as a separate course, even if announced in the catalogue as a year course with a single number.

In the announcements of the department of chemistry of the Iowa State College no hint is given as to how many of the 109 courses are given in alternate years or in sequence, or how many of them have not been given at all; nor is it quite clear how far the different courses overlap. The announcements give the impression of a symmetrical development. The following tabulation of the instructional staff of the three institutions under discussion is illuminating:

Number of instructors.

	Iowa State College.	University of Illinois.	University of Wisconsin.
Professors.....	2	6	6
Associate professors.....	5	.....	2
Assistant professors.....	.....	4	6
Associates.....	.....	3	.....
Instructors.....	7	8	13
Assistants.....	10	19	21
Graduate assistants.....	.....	19	.....
Lecturers.....	.....	.....	6

It needs no argument to show that a staff of 2 professors, 1 of whom is on leave of absence, 5 associate professors, 1 of whom is on leave of absence, 7 instructors, and 10 assistants, of whom some are graduate students in the department, can not give every year 109 courses, involving more than 320 semester hours. Any endeavor to give a large proportion of these courses every year would certainly lead to a lowering of the grade of instruction through overloading of instructors.

MODERN LANGUAGES.

The department of modern languages offers instruction in French, German, and Spanish, aiming at "the selection of material to be used in the study of languages, so that they will be helpful to the student in the pursuit of the technical subjects which make up the main body of his work." In French 8 courses are offered, with a total of 23 semester hours, or if alternatives in advanced French prose be considered, 29 hours. Of this, 8 or 10 hours constitute work in elementary French, of which 6 hours are devoted to scientific French, with "selected readings in physics, chemistry, geology, and mineralogy." The purpose in giving 6 or 12 hours in advanced French prose, as announced above, is not quite clear, however, in view of the fact that so few high schools in the Middle West enable students to secure enough hours in that subject for admission, so that they could take advanced French in their freshman and sophomore years. Courses in Spanish, which are now considered important for engineers, number 4, with a total of 16 hours, of which 6 or 10 belong to elementary Spanish.

In German 20 different courses are announced, covering a maximum credit of 62 semester hours, of which 10 hours are in elementary courses for beginners and 6 for students who have had one year of high-school German. One course is for students in botany, bacteriology, chemistry, etc., 6 hours for the year; another having the same prerequisites and the same credit value is made up of "readings" in physics (such topics as sound, heat, light, and electricity), chemistry, geology, and mineralogy. A third is given in advanced German prose, a fourth in Goethe's "Faust," and a German "seminar" is devoted to some phases of Goethe's work. When compared with the modest offerings in Spanish and in French, the offerings in German appear somewhat excessive, especially when it is stated that only 5 students from home economics and industrial science constitute one of these advanced classes. In this connection it is to be noted that the Iowa State College offers a total of 62 semester hours in German as a service department, and the State University of Iowa offers 88 semester hours, exclusive of courses for graduate students only, but including a considerable number of advanced undergraduate courses designed to prepare students for strictly graduate work. The latter includes also courses which are given in alternate years, of which in 1914-15 there were 6 hours. These figures, of course, have little to do with the total number of students registered or the number of instructors required. Quite possibly the number of such students in the courses in the freshman and sophomore years is already greater at the State college than at the State university, but in these cases the larger number of students would be taking their work in sections of a single course instead of courses of different grades or different content.

MATHEMATICS.

The department of mathematics is one of the large service departments, and has a departmental staff, perhaps the largest in the State. It is estimated that nearly 80 per cent of all the students in Iowa State college pursue some course or courses in mathematics. In its capacity as a service department, it must offer more advanced courses than the department of English in order to support the advanced technical courses in physics and engineering. A student, however, may major in mathematics in the course in industrial science, and in that case he takes a total of 36 to 41 hours in the department. The department announces 13 courses for undergraduates, 19 for undergraduates and graduates, and 5 for graduates only. The announcement of 25 of these courses follows this note: "Mathematics 48, or any subject following 48 although taught regularly but once in two years, will be given at any time when there is sufficient demand to justify the formation of a class"; 11 of the 25 were not offered in 1915-16.

The courses thus developed in the department of mathematics include, first, the usual required work in algebra, trigonometry, analytical geometry, and calculus, and then a diversified group of advanced courses comparable with those offered by any department of mathematics in a liberal arts college; advanced integral calculus, theory of the functions of a complex variable, projective geometry, infinite series, vector analysis. Special courses for the assistance of engineers are higher mathematics for electrical engineers, 3 hours; advanced dynamics, 6 hours; differential equations of mathematical physics, 3 hours; and an introduction to the mathematical theory of electricity and magnetism, 3 or 4 hours. A course of questionable propriety in this institution is "*Mathematics as applied to social and economic problems*, probability, finite differences, adjustment and use of mortality tables, annuities, life insurance and investments, and such other subjects as are adapted to the needs of those taking the subject." In this connection it is interesting to note that the offerings in the department of mathematics are more extensive and specialized than those to be found in such great engineering schools as Stevens Institute of Technology, and in Rensselaer Polytechnic Institute, which gives not only the usual undergraduate curricula in civil, electrical, and mechanical engineering, but offers graduate curricula leading to master's and doctor's degrees in engineering and science. The commission is of the opinion that the offerings of this department are more than sufficient for the needs of the college, even when the advanced work is given due weight. With a staff so large as this department has, opportunity should be given to the members to continue productive study even though they do not offer a great variety of advanced and graduate courses in mathematical specialties. The fact that these advanced courses are elected by but few students, or that some of them are given only in alternate years, does not affect the principle involved.

PHYSICS.

An illustration of what looks like a tendency to announce a group of graduate courses in advance of any large demonstrated demand is found in the department of physics, in which a student in the division of industrial science may also major. Without discussing the announcement of several courses with substantially the same content, though with varying credit, for example, "617. Physical Laboratory. Credit 2," and "615. Physical Laboratory. Similar to

617. Credit 1," attention is called to the following announcement of eight courses:

- 850. Thesis.
- 1041. Theory of heat.
- 1042. Wave motion and sound.
- 1043. Theory of light.
- 1044. Theory of electricity and magnetism.
- 1045. Research.
- 1046. Research.
- 1047. Physics seminar.

The amount of laboratory work and the number of recitations in studies

1041 and 1047 to be arranged.

Here it should be pointed out again that the State does not need two research laboratories of physics, unless they are so definitely differentiated that the enormously expensive apparatus for the best results in physical investigation need not be duplicated in any considerable measure.

ZOOLOGY.

The department of zoology is an interesting and significant example of a real service department, which in its announcements holds close to the purposes of a service department, at the same time including a wide range of courses which buttress the major interests of agriculture and home economics. It offers 20 courses for undergraduates, 10 for undergraduates and graduates, and 1 for graduates' only; 14 of these are really courses in entomology, which in some institutions is constituted as a separate department. Students who wish to make zoology their major in the curriculum in industrial science have opportunity to specialize within this major in morphology, embryology, physiology, and entomology. The department might very well be encouraged to expand its courses in entomology, for example, "42-43. Research in entomology," giving a total of eight semester hours, into a graduate course proper, so closely is the work of entomology, and more particularly economic entomology, connected with the problems of a college of agriculture. The increasing importance of entomology as a field of scientific investigation and expert administration in the State may lead to the appointment of a State entomologist or to an entomological survey. The center of operations of such an office ought to be the State college. Just as the advanced and research work in geology should be placed at the State university, the advanced and research work in entomology should be developed at the State college, with prompt interchange of students and younger members of the faculty who develop talents in one direction or the other.

The one course for graduates only announced by the department, "Neurology, the comparative morphology and vertebrate nervous system, especially the physical anatomy, of the human brain," does not belong in the curriculum of the State college and clearly parallels a course or courses given in the State university in comparative neurology, both in the nonprofessional courses and in the college of medicine. This development of a graduate course at the State college probably represents the individual preference and strength of a professor, rather than a judiciously determined need of the department or the college.

APPENDIX B.

EXTENSION WORK.

AT THE UNIVERSITY OF IOWA.

From the earliest days members of the staff of the University of Iowa have given lectures and courses of lectures in various parts of the State on the subject matter in which they are specialists. This type of extension work, representing a number of the departments of instruction, is still continued, but without an organized plan.

The present extension enterprise of the university is known as the extension division. It is of about two years' standing. The first year the appropriation for this work by the State was \$15,000 and for the year 1915-16 it is \$17,000. The appropriation act specifically mentions "University extension work," but does not define it.

The extension enterprise is not an organic part of the university in the sense of representing the different departments of research and instruction. It is organized separately, the responsible officer is known as the director, and he does not have a seat in the university faculty. The organization calls for eight in the staff for the current year, although two places are for the present unfilled and three of the persons give only part time. The salary budget for the year is \$12,940.

The extension division reports directly to the president of the university. Its relations with the departments of the institution are purely advisory so far as the extension division is concerned, and the cooperation is voluntary on the part of the members of the university staff. Some members of the division have given instruction to university students during the year. No fees or compensation for services are given to any members of the university staff when they are absent on extension business, but their expenses are paid from the extension fund. The regular departments or enterprises of the university receive no allotment of funds from the extension division with the single exception that an annual appropriation of \$800 is at present set aside to meet the pay roll of the Lakeside Laboratory, on Lake Okobji, in the northern part of the State. This laboratory has been in existence a number of years as a specialized study center for extension work in botany and related subjects. This allotment of \$800 does not cover all the expense of the laboratory.

The special staff for the extension division, aside from the director, is a specialist in business administration, one in educational service, one in debating and public speaking, one in accounting, one in social service, and one in social welfare. Most of these persons bear the title of instructor. The division is organized into bureaus, which are essentially projects or departments of work rather than separate secondary organizations. The general purpose of the extension division is to be of service to the people of the State, particularly to municipalities and to business interests in them, in the way of making surveys,

giving advice, and in the holding of meetings and conventions. The enterprises or projects are as follows:

- Municipal information;
- Social welfare;
- Child welfare;
- Educational service;
- Business administration;
- Accounting for retailers;
- Debating and public speaking;
- Lectures;
- Training camp for camp-fire guardians.

Correspondence courses for college credit are in contemplation, but are not yet definitely organized.

Aside from the staff of the extension division itself, about two dozen members of the university staff have gone into the field by arrangement with the division. The extension division feels itself at liberty to call on others, when occasion may arise, for their services. None of the officers is under obligation to partake, but the director reports the best spirit of cooperation on the part of the university membership. This cooperation may be in the nature of lectures or the conducting of more or less definite convention work, the making of special studies in localities, or undertaking research surveys.

The object of the work of municipal information is to collect and to disseminate facts on the many phases of city, town, and village life in Iowa. The division meets the inquiries of municipal officers, voluntary organizations, commercial clubs, and individuals, with information on such problems as municipal government and administration, public utilities, town and city planning, advertising, business organization and methods, street improvement, transportation, public service rates, sewage, sanitation, and municipal accounting.

The project known as business administration is distinct from the above, inasmuch as it deals with retail merchants rather than with municipalities or those representing municipal problems. The service is rendered directly to retailers and also to organizations of retailers who desire to be advised as to the best method of procedure to enable them to assist themselves in their business administration and in methods of cost accounting.

The bureau or project of accounting for retailers concerns itself chiefly with the installation of definite accounting systems in the stores or establishments. It is reported that several of the large firms in the State have taken advantage of the opportunity to secure advice as to better ways of keeping accounts.

The above descriptions of the bureaus or divisions of the work are sufficient to explain the general character of the other enterprises. These enterprises operate largely through organizations of various kinds in the towns and cities and are likely to result in conventions and in some cases in the publication of a bulletin setting forth the best experience on a given subject of inquiry. As illustrations of the kinds of meetings and conventions that have been held, the following may be mentioned: Winter short course in merchandising, under the auspices of the Sioux City Commercial Club; part of the program at Dubuque of the Iowa State Retail Merchants' Association and short course in retailing; short course in Burlington in retail merchandising; conference at Iowa City on supervision for city superintendents, county superintendents, high-school principals, grade principals, and other supervisors; conference of commercial club secretaries at Iowa City; conference of Iowa Latin teachers at Iowa City; an annual day at Iowa City; a municipal lighting day at Iowa City; cooperation in the extension of Y. M. C. A. courses in the localities. If the local organization under which the meetings are held has finances sufficient, it may pay all necessary traveling expenses. The extension division carries the expense

necessary to organize the programs in case of such meetings as business institutes, short courses, and the like. About 260 meetings have been held during the past year.

An important part of the extension enterprise is represented in the loan collection of lantern slides. There are several hundred of these slides, which are loaned to high schools. The schools are not charged for use of the slides, the teacher or the schools paying only the express charges both ways and being responsible for broken slides. These slides represent objects and methods in the teaching of botany, geography, physical geography, German, Greek history, Latin.

The extension division has issued 12 bulletins as follows: No. 1, "Street Lighting," by A. H. Ford; No. 2, "Rate Making for Public Utilities," by Wm. G. Raymond; No. 3, "Engineering as a Profession," by Wm. G. Raymond; No. 4, "Store Lighting," by Arthur H. Ford; No. 5, "Economy of Time in Arithmetic," by Walter A. Jessup; No. 6, "Vocational Guidance in High Schools," by Ervin Eugene Lewis; No. 7, "Ninth Annual Announcement of the Iowa High School Debating League," edited by O. E. Klingaman; No. 8, "Water Works Statistics of Thirty-eight Cities of Iowa, with the Meter Rates of Seventy Cities," by John H. Dunlap; No. 9, "Work, Wages, and Schooling of Eight Hundred Iowa Boys in Relation to the Problems of Vocational Guidance," by Ervin E. Lewis; No. 10, "Principles of Advertising," by Philip J. Sodergren; No. 11, "Hygienic Conditions in Iowa Schools," by Irving King; No. 12, "Tenth Annual Announcement of the Iowa High School Debating League," edited by O. E. Klingaman.

AT THE IOWA STATE COLLEGE OF AGRICULTURE AND MECHANIC ARTS.

At Ames, extension work has assumed very large proportions, because it is founded on acts of the legislature of nearly 10 years' standing, because it receives the benefits of the Smith-Lever fund appropriated by Congress, and in part because of the character and intention of agricultural-college work in general. Two separate lines of extension enterprise issue from the institution, each under its distinct and separate organization. One is extension in agriculture and home economics and the other in engineering.

1. AGRICULTURE AND HOME ECONOMICS.

The extension of the results of experiment-station work, as well as of the teaching, is an enterprise of many years' operation. The legislature of 1906 authorized or defined the extension work, and the following year the statute was modified. In the former year the sum of \$15,000 was appropriated for the work and in the latter year the sum was \$27,000. The general purpose of the work as defined by the law and as practiced by the college is to extend to the people of the State the knowledge that is gained by the institution in its experimental and research work, and to make its teaching staff and organization of use to its constituency throughout the Commonwealth. Tests are made in different parts of the State, demonstrations are held, and instruction is given in corn judging and stock judging at the agricultural fairs, institutes, and clubs; farm bureau organizations are maintained; general application of the knowledge and advice accumulated at the institution is made to the farms and homes of the State.

The agricultural extension is organized in a separate department, reporting directly to the president through its director. The director of extension has

charge of the administration and organization of the various lines of extension work, receives reports from all members of the extension staff, and is himself part of the time in the field. There is a secretary of agricultural extension who does no field work, but has charge of the office force and makes the speaking, demonstration, and organization dates for the members of the extension department. Comprised in the staff of the department is a State leader of county agents, a State leader of boys' and girls' club work, a supervisor of correspondence courses, a State leader of dairy farming extension, a State leader of creamery extension work, together with such helpers as may be necessary.

The teachers giving the subject matter work throughout the State are members of the various college departments, receiving their instructions as to scientific data from the head of the department, but being under the administration of the extension director so far as appointments, dates, traveling, and salaries are concerned. Conferences between the various subject-matter departments in the college and the director or staff of the extension department tend to solidify the work and to bring all forces into close cooperation. The total extension staff, comprising the officers of the extension department and the extension teachers in the different departments or divisions of the college, numbers more than 50 persons. The subjects represented are animal and poultry husbandry, farm crops and soils, horticulture, veterinary medicine, agricultural engineering, agricultural education, rural sociology, home economics.

Cooperative extension work in agriculture and home economics is under the general oversight of the United States Department of Agriculture, under the terms of the Smith-Lever Act. The allotments of funds, by projects, for cooperative agricultural extension work for the fiscal year 1915-16 in all the States are published in the Weekly News Letters of the United States Department of Agriculture for November, 1915. The allotments for Iowa are as follows, arising from Federal, State, and local funds:

Total, \$229,878; administration, \$19,058; publications, \$71,974; county agents, \$47,210; home demonstration, \$30,000; movable schools, \$40,643; boys' club work, \$13,482; live stock, \$14,483; poultry, \$2,250; dairying, \$8,180; agronomy, \$11,875; horticulture, \$3,000; agricultural engineering, \$3,675; farm management, \$3,650; rural organization, \$1,600; other projects, \$22,798.

The projects of the agricultural extension department at Ames as planned for the year July 1, 1915, to June 30, 1916, are as follows:

- No. 1. Administration.
- No. 1-A. Printing and distribution of publications.
- No. 2. County agent work.
- No. 3. Home economics or home demonstration work.
- No. 4. Movable schools.
- No. 5. Boys' and girls' club work.
- No. 6. Pomology demonstration work.
- No. 7. Truck crops demonstration work.
- No. 8. Farm crops demonstration work.
- No. 9. Prevention of animal diseases.
- No. 10. Dairy farming extension work.
- No. 11. Creamery extension work.
- No. 12. Farm management demonstration work.
- No. 13. Animal husbandry demonstration work.
- No. 14. Poultry demonstration work.
- No. 15. Farm crops and soils demonstration work.
- No. 16. Agriculture in schools.
- No. 17. Landscape gardening demonstration work.
- No. 18. Correspondence courses.
- No. 19. Agricultural engineering extension work.
- No. 20. Rural social welfare.

2. ENGINEERING EXTENSION.

The extension enterprise in engineering at the Iowa State College is separate and distinct from the other extension work of the institution, being organized under its own directing officer, who is responsible to the president of the institution. This is entirely a college enterprise, being supported by appropriations that are made to the institution by the State and receiving none of the Smith-Lever fund. The sum of \$25,000 is used annually in the work. The regular staff comprises 8 persons, together with more than 20 local instructors who live at various points in the State. Aside from these are professors and associate professors in the college department of engineering who are engaged in extension enterprises. The engineering extension is coordinate with the agricultural extension and has much the same kind of organization, although dealing with a different line of problems. The engineering matters that relate particularly to the agricultural occupations are handled by the department of agricultural extension, inasmuch as they are not professional or are not taught from the point of view of the industrial classes.

The purpose of the engineering extension is to aid and instruct engineers, mechanics, supervisors of industrial concerns, and to be of service to municipalities desiring engineering advice.

The engineering extension is now projected into nine fields or lines of work, as follows:

1. The two-year vocational course at the college at Ames, for electricians, stationary engineers, mechanical draftsmen, and building superintendents. It is the purpose in this division to prepare the student definitely for the industries rather than to give the equivalent of a high-school or manual-training course. In this two-year work 6 men enrolled in 1913; 41 enrolled in 1914; in the fall of 1915 about 45 men entered. A certificate is given for this course, three being awarded in June, 1915.

2. Correspondence and class study at points outside the college. About 600 correspondents and class students in courses requiring from three months to two years for completion had been enrolled up to July, 1915. Industrial courses have been established in a number of the cities of the State, and the department has assisted in promoting and teaching industrial classes in other places. It has organized factory schools, courses for engineers and shopmen, and courses about the State in shop drawing, sheet-metal drawing, carpenter's drawing, cement products, and carpenter's arithmetic. Correspondence students are also accepted under certain conditions. All these courses are held in connection with an organization in the locality that is able to take care of the arrangements and to finance the enterprise.

3. Lecture work on technical and industrial subjects before conventions, labor unions, engineering societies, schools, and other bodies. About 82 such lectures already have been given, practically all of them by members of the extension staff.

4. Short courses for tradesmen were begun in 1913-14 by the holding of a course for painters, an enterprise that was continued the following year and which is now a permanent feature of the engineering extension work required by the master painters' association. Courses are also held for telephone operators, for telephone plant men, and for plumbers, steam fitters, janitors, and firemen.

5. The publication of bulletins in cooperation with the agricultural extension department, four of which have now been issued on manual training for rural schools. Technical bulletins have been published on street lighting, street

oiling, garbage disposal, automobile topics, and also one giving a list of practical books.

6. Automobile institutes were held in 27 towns in the State in 1914, said to be the first work of its kind in the Union.

7. Manual training for rural school teachers under a regular instructor, and in cooperation with the agricultural extension department. This work is correlated with the lines discussed in the bulletins on manual training.

8. A technical service bureau has been organized to give aid to municipalities on the various subjects about which they inquire or on developments that they may be considering. This service is rendered mostly by means of talks by practical men before representative bodies or organizations in the various municipalities. These talks or demonstrations have covered the subjects of roads and pavements, electric lighting, sewers and sewage disposal, water supply, and refuse collection and disposal.

9. Moving-picture films. A set of ten moving-picture films has been used the present year in the schools for educational purposes, showing the methods in use in various industrial occupations and establishments, together with suggestions for their improvement. The success of this service has warranted larger appropriations, and it is now being considerably extended.

At the time of the visit of the commission, class work was being conducted in 14 cities and towns in the State, with a total of 409 registrations. These classes continue throughout the winter. Students taking work by correspondence alone numbered 15. In the classes meeting in the different centers for manual training, the attendance of teachers is 17 to 25. Classes meet every Saturday.

AT THE IOWA STATE TEACHERS COLLEGE.

The extension enterprise issuing from the State Teachers College is definitely and concretely for the purpose of supplementing the previous training of teachers. Study centers are organized in the localities, usually in a high-school building, and under the direction of the county superintendent of schools. These meetings are held on Saturdays, and comprise sessions in forenoon and afternoon combined of about four hours. The study center may continue its meetings on some of the Saturdays throughout the entire school year.

The extension effort of the Iowa State Teachers College is two years old, having started in December, 1913. In the years 1913-14 and 1914-15 the work was supported entirely by counties or localities. The State has now made an appropriation of \$19,750 to cover both the per diem or salary of the instructors and the expenses.

The organization at Cedar Falls is known as the extension department of the Iowa State Teachers College, under the directorship of the head of the department of education, who reports directly to the president of the college. There is an assistant director. The heads of the subject-matter departments in the college are called on for this Saturday work in the outside localities. Aside from this, local teachers specially well qualified are secured, and at the time of the visit of the commission 39 of these outside teachers were under employment. City superintendents and other persons who are specialists in certain subject matter are drafted into the work.

The study centers in the localities are of different grades and degrees of efficiency. Some of them are at first in the nature of demonstration centers, to explain to the teachers the importance of the work and the necessity of constantly adding to their professional preparation. In 94 of the 99 courses, study

center work has been undertaken. In some cases there is only one study center in the county, particularly when there is one important railroad point where the teachers may easily assemble from parts of the county. In other counties there may be as many as four centers. Each center holds from 2 to 10 meetings in each year, averaging about 5. The number of teachers enrolled in these study centers to November 1, 1915, was 5,051.

Aside from these county centers, an intensive type of work is conducted on what is called the district-center plan. These represent smaller units, sometimes four or five in a county. The work is carried farther and in greater detail and if possible made more applicable to local conditions than in the county study centers. In 8 or 10 counties these district study centers are now organized. These district study centers are administered in the same way as the county study centers, and with the same type of local organization; they differ in their more intensive teaching.

The subject matter in the study centers of both kinds comprises the usual subjects in the school curriculum. Now that the law requires the teaching of agriculture and home economics in the schools, the demand on the part of the teachers for instruction in these subjects is naturally strong.

Inasmuch as the extension work issuing from the State Teachers College is designed only for teachers and to aid them directly in their school work, there is no conflict or duplication with other extension work in the State. At the State teachers institutes and other meetings, members of the extension staff of the State College of Agriculture and Mechanic Arts may give instruction in agriculture and home economics, and that institution also organizes boys' and girls' clubs and prosecutes other work that may have more or less direct relation to the efficiency of the schools; but that enterprise is not designed for professional work with teachers, and therefore the two enterprises proceed along their independent lines.

Under certain conditions, the teachers attending a study center may receive credit of one-half to one point in the State teachers college. The attendance on these study centers is not obligatory on the part of any teacher, but in practice nearly all the teachers of the county attend. It naturally gives them better chances for promotion and increases their efficiency in the schools.

Although covering practically the entire State, this extension work is really in its initial or formative stage. It is to be expected that very shortly it will become a more integral part of the work of the college, employing more persons both at the college and in the localities, and result in more definite credit to teachers who enroll as students, and count more specifically toward the securing or the renewing of the teachers' certificates. Already about 50 persons in the staff of the college are cooperating in these Saturday extension activities, and about an equal number from outside are also taking part as leaders, teachers, or organizers. When the work matures and assumes its full volume, it is probable that other days than Saturday will have to be given to it, and this may mean either a shift in the curriculum of the college, or else the employment of a larger staff and with some arrangement whereby this staff may be employed the other days either in teaching at the college itself or in various kinds of follow-up work in the State. The extension enterprise can not then be carried as extra duty on the part of the teachers, either in justice to the extension or to the regular teaching in the institution. The burden is now too heavy on the regular staff.

If this enlarged and solidified extension enterprise develops, it will be necessary to have some other arrangement on the part of the school system itself whereby teachers may be excused, with pay, for certain days or periods on

condition that they enroll and take part in a study-center or similar extension enterprise. In such an eventuality, which seems to follow logically from the situation, a large piece of educational organization will be required.

A regular system of college credits will also need to be devised. At present the conditions for receiving credit for college study center work are: (1) Thirty hours of class instruction for a whole credit, to be applied on the 120 hours required for graduation from the college, with (2) an additional 30 hours of home work, to be planned and assigned by the instructor in charge of the study center, and (3) a satisfactory examination on the work that has been covered. One-half credit may be secured for half of the above work. No teachers are enrolled for credit unless they have met all the conditions for college entrance. The conditions for receiving one-half credit in didactics, to apply on the rural-teachers' course or the normal course in teachers' college in the district study center work, are as follows: (1) Attendance on a district study center meeting for 16 hours of instruction; (2) presentation of one paper on some subject assigned by the local leader; (3) an examination on the book that is used as a text in the district study center course. These requirements and privileges suggest a considerable enlargement of the credit system if the professional extension work with the teachers should grow to meet the evident needs of the teachers of the State.

The commission commends this effort to provide extension teaching to aid the teachers of the State and recommends that larger appropriations be made for it to teachers' college, with a definite State-wide policy which shall have organic connection with the school system.

APPENDIX C.

THE HOUSING OF WOMEN STUDENTS.

Under the general authorization given by the board to discuss any matters which might, in its judgment, bear upon the welfare of the three State institutions, the commission takes the liberty of offering a few brief observations, without specific recommendations, on the housing of women students. The suggestions, which follow, are submitted rather as a summary of what appears to be the best current practice and as a tentative program for the consideration of the board than with the intention of criticizing adversely existing conditions.

Those in control of colleges and universities are manifesting a growing sense of responsibility for the moral and physical welfare of the rapidly increasing number of young women who go from the protection and care of their homes into coeducational institutions. To leave hundreds of young girls recently out of the high school, who are separated from parental influences for the first time, absolutely to their own devices in the conduct of their lives is now commonly regarded as a questionable practice. To intrust their physical well-being to uninterested boarding-house keepers is not less unwise. The girl entering college is in need of something more than intellectual training, sufficient housing, and adequate food. She requires social guidance and assistance in the establishment of character ideals. These can best be given in properly supervised dormitories.

The commission therefore commends the efforts of the State board of education to provide dormitories for the young women in the State educational institutions. There are now excellent dormitories at each of the schools, but all three need additional structures for the accommodation of young women. The immediate end which the commission believes the State should seek to attain in the institutional housing of women students might be stated as follows: There should be enough room so that the freshmen women may be cared for, with 10 per cent excess room for the accommodation of upper-class women. All first-year women, not living with relatives, or friends, should be required to live in the dormitories. The surplus accommodation just mentioned permits of the retention in the dormitories of a certain number of mature students, by which arrangement the maintenance of a stable house government is furthered.

It is the opinion of the commission that large dormitories, housing from 100 to 150 women, directed by one preceptress, present certain social disadvantages. Since the rooms occupied by the young women are study rooms as well as sleeping apartments, the grouping of large numbers of students together in one dormitory renders it difficult, if not impossible, to insure quiet. No matter what is decided upon as the best exterior effect, it is suggested that dormitory structures should have an interior arrangement in which the maximum accommodation in one section does not exceed 60. Provision should be made in each new dormitory constructed for evening games and dancing in the hour of recreation and relaxation immediately after supper.

It is entirely feasible to cook for all the women students of the institution in one adequately equipped kitchen, but it is believed that there is a gain in the

conditions of social intercourse if the number dining together is restricted to the above-mentioned maximum of 60. The cafeteria plan of feeding students may be economical. The commission favors the table of a well-administered dormitory, however, as more nearly approximating family conditions. Particularly as a boarding place for women students, the cafeteria has one very objectionable feature, namely, that the decision as to the amount of food to be purchased is left to the customer. Under these circumstances women students, out of caprice or because of the desire to economize, are likely to underfeed themselves. The commission thinks that an advisory relationship between the food-service department and the home-economics department should be established at each institution to make sure that the food shall be nourishing and attractive as well as furnished at the minimum cost to the institution and the student.

The commission is of the opinion that there should be systematic inspection and approval of the lodging quarters maintained at each institution. It suggests that the dean of women be authorized to exercise special supervision over the housing of women students in private residences, rooming houses, and sorority buildings, as well as in the institutional dormitories. In the performance of this task she may find it desirable to hold weekly advisory meetings with the women in control of the houses.

The question of rest rooms for women students has also been called to the commission's attention. Not infrequently a young woman must secure an hour's relaxation in a horizontal posture in order to be able to continue her class work. It may consume too much time if she goes to her room, and the fatigue of going and returning may offset the benefit gained. Indeed, if she reaches her own room she seldom returns until the next day. To meet these conditions the provision of rest rooms for women students, especially on the university campus, is advised.

APPENDIX D.

SUBSTANCE OF LETTER ADDRESSED TO THE EDITORS OF JOURNALS PUBLISHED IN THE STATE OF IOWA.

At the request of the Iowa State Board of Education, the United States Commissioner of Education has appointed a survey commission to make a report upon the conditions and needs of the three State-supported institutions of higher education in the State of Iowa. Among the questions suggested for the consideration of this commission is that of the extension of courses in journalism. In order to facilitate the investigation of this question, the survey commission desires certain facts as to the services rendered hitherto by the Iowa colleges and college men to the journals of the State. The survey commission will, therefore, be especially grateful to you for information regarding two or three specific matters concerning the editorial and managerial staff of your publication. This, of course, excludes compositors or machine men, skilled laborers in binderies, stenographers, and bookkeepers.

1. How many persons are employed in the editorial and business departments?
2. How many of these are college men or women?
3. How many of these are graduates of colleges or universities in the State of Iowa?
4. Is there, in your judgment, a large and growing demand for men technically trained in journalism as a profession comparable with the profession of law or railroad management?

AT IOWA STATE COLLEGE.

Agricultural Engineer- ing Hall.....	1893	1,776	7,758	2,783	12,317	65,120	39,739	25,845	416	12,733	4,357	5,071	9,428	695	22,856	22,860
Agricultural Engineer- ing Annex.....	1903	676	4,937	.....	5,613	46,325	46,575	21,576	6,541	12,154	3,326	5,514	8,840	.....	20,994	19,400
Central Hall.....	1907-8	8,843	5,814	876	15,533	56,983	30,843	17,572	3,350	18,883	19,337	22,963	42,300	12,771	73,954	70,869
Engineering Annex.....	1904-5	16,960	4,948	.....	21,908	50,945	55,142	28,046	1,018	22,926	13,760	36,376	50,136	3,754	76,816	72,227
Engineering Hall.....	1910	5,242	5,956	1,530	12,728	49,680	44,006	21,868	6,273	19,001	5,235	7,452	12,687	312	32,000	32,632
Force shop.....	1901-2	3,522	7,037	11,285	21,864	38,491	44,199	17,017	1,446	23,310	5,845	21,199	27,044	2,864	53,218	52,008
Gymnasium.....	1896	.....	2,660	.....	2,660	44,000	100,000	44,000	.....	2,660	234	.....	234	.....	2,894	2,906
Ironomics.....	1912-13	4,966	.....	.....	4,966	79,400	50,000	39,700	35,069	40,035	1,837	11,048	13,505	.....	53,540	47,245
Morrill Hall.....	1909-10	1,751	9,287	.....	11,038	63,835	47,265	30,225	3,196	14,234	3,601	8,460	12,061	.....	26,295	24,492
Total.....	1891	864	2,175	.....	3,039	41,625	35,225	14,643	20	3,059	8,001	6,357	14,358	2,730	20,147	20,252
Plant average.....		44,600	50,592	16,474	111,666	536,424	492,993	260,492	57,329	168,995	65,553	125,040	190,593	23,126	382,714	364,891

AT IOWA STATE TEACHERS COLLEGE.

Auditorium.....	1901	14,719	.....	909	15,628	57,775	36,348	20,98	403	16,031	1,423	40,094	41,517	1,012	58,560	82,036
Domestic science (temp.).....	1867	6,544	.....	2,635	2,635	70,000	45,500	31,85	.....	2,635	64	.....	64	.....	2,699	1,000
Central Hall.....	1882	1,947	3,420	.....	9,964	64,830	47,405	30,72	872	10,836	932	6,990	7,922	320	19,078	22,400
Gleichen Hall.....	1895	7,474	780	852	6,878	67,793	50,560	34,31	3,536	10,414	310	15,768	16,078	.....	26,402	25,740
Administration.....	1903	18,086	2,741	.....	8,326	66,880	45,610	30,51	1,861	10,187	3,898	16,339	20,237	.....	30,424	29,008
Teachers' training school.....	1912	22,430	.....	.....	20,827	61,155	26,880	16,46	1,669	22,496	4,140	15,826	19,966	3,373	45,835	63,020
Gymnasium.....	1903	2,538	8,550	.....	22,430	31,250	30,100	9,42	1,626	24,056	2,056	15,686	17,742	.....	41,798	45,540
Laboratory.....	1906	.....	.....	.....	11,088	60,297	36,542	22,01	4,323	15,411	2,867	6,555	9,422	.....	24,833	28,672
Total.....		73,738	15,491	8,547	97,776	479,980	318,945	196,26	14,290	112,066	15,090	117,258	132,948	4,705	249,719	297,416
Plant average.....		.....	.....	.....	.....	59,997	39,868	23,93	.....	.....	.....	.....	.....	.....	.....	.....

¹ Where ratio is not given, complete information was lacking.

² See note on p. 105.

³ By superintendent of buildings or other official, verbally or in writing; discrepancies between "found" and "reported" space probably due to scale calculations and exterior measurements.

⁴ Not included in plant T.

⁵ Basement included.

⁶ Basement not included.

APPENDIX F.

STUDENT CLOCK HOURS, SALARIES, EXPENDITURES.

UNIVERSITY OF IOWA.

BOTANY.

Instructors.	Salary.	Student clock hours.	
		First semester.	Second semester.
_____, professor.....	\$2,500	168	252
_____, professor.....	2,400	315	292
_____, assistant professor.....	1,600	35	131
_____, assistant.....	900	38	82
_____, assistant.....	900	151	125
_____, assistant.....	800	41	83
Total.....	9,100	748	963
Average.....	1,517	124	160

Classes.	Students in class.				
	1 to 5	6 to 10	11 to 20	21 to 30	31 to 40
Number of classes:					
First semester.....	12	6	4	4	2
Second semester.....	9	6	5	5	2

CHEMISTRY.¹

Instructors.	Salary.	Instructors.	Salary.
_____, professor.....	\$3,000	_____, (one-half time).....	\$600
_____, assistant professor.....	1,900	_____, assistant.....	900
_____, assistant professor.....	1,800	_____, assistant (one-half time).....	500
_____, assistant professor.....	1,800	_____, assistant (one-quarter time).....	300
_____, instructor.....	1,200	_____, assistant.....	100
_____, instructor.....	1,000	_____, storekeeper ²	2 700
_____, instructor.....	1,000	Total (11½).....	16,100
_____, instructor.....	1,000	Average.....	1,430
_____, instructor.....	1,000		

Classes.	Students in class.						
	1 to 5	6 to 10	11 to 20	31 to 40	59 to 67	80	114
Number of classes:							
First semester.....	10	8	1	1	1	1	1
Second semester.....	12	6			2		1

¹ Total number of student clock hours, first semester, 1,988; average, 178; second semester, 1,466; average, 130.

² Not included in total.

EDUCATION.

Instructors.	Salary.	Student clock hours.	
		First semester.	Second semester.
—, dean.....	\$3,500	142	144
—, professor.....	2,500	234	160
—, assistant professor.....	1,800	152	278
—, assistant professor.....	1,600	382	378
—, associate professor.....	2,200	132	82
—, lecturer ($\frac{1}{2}$ time).....	500	8	6
—, stenographer ¹	1,900	.....	.....
Total (5 $\frac{1}{2}$).....	12,100	1,050	1,048
Average.....	2,300	200	200

¹ Not included in total.

MODEL SCHOOL.

Instructors.	Salary.	Instructors.	Salary.
—, teacher.....	\$700	—, teacher.....	\$80
—, teacher.....	600	—, teacher.....	80
—, teacher.....	800	—, teacher.....	80
—, teacher.....	80	—, teacher.....	80
—, teacher.....	80	—, teacher.....	80
—, teacher.....	80	—, teacher.....	80
—, teacher.....	80	Total.....	2,820

ENGLISH.

Instructors.	Salary.	Student clock hours.	
		First semester.	Second semester.
—, professor and dean.....	\$3,500	133	138
—, assistant professor.....	1,900	401	397
—, assistant professor.....	1,900	396	354
—, assistant professor.....	1,900	370	386
—, assistant professor.....	1,900	258	212
—, assistant professor.....	1,900	355	275
—, instructor.....	1,200	192	176
—, instructor.....	1,300	345	329
—, instructor.....	1,000	289	254
—, instructor.....	1,200	197	193
—, instructor.....	1,200	220	256
—, instructor.....	1,200	243	310
—, (one-fourth time).....	300	68	100
Theme readers, 2 instructors.....	1,995	.....	.....
Office assistant ²	2,300	.....	.....
Total (14 $\frac{1}{2}$).....	22,395	3,472	3,380
Average.....	1,580	243	237

Classes.	Students in class.						
	1 to 5	6 to 10	11 to 20	21 to 30	31 to 40	41 to 50	51 to 65
Number of classes:							
First semester.....	1	3	17	24	12	3	1
Second semester.....	1	5	21	23	10	1	3

¹ Head of department of English, Iowa City high school.² Not included in total.

PUBLIC SPEAKING.

Instructors.	Salary.	Student clock hours.	
		First semester.	Second semester.
—, assistant professor.....	\$1,650	212	174
—, assistant.....	900	270	286
—, assistant.....	100	.....	.....
Total (3).....	2,650	482	460
Average.....	1,325	241	230

Classes.	Students in class.					
	1 to 5	6 to 10	11 to 20	21 to 30	31 to 40	41 to 50
Number of classes:						
First semester.....	1	3	5	1	2	1
Second semester.....	2	3	2	2	2	1

GEOLOGY.

Instructors.	Salary.	Student clock hours.	
		First semester.	Second semester.
—, professor.....	\$2,600	231	232
—, professor.....	2,100	548	647
—, assistant professor.....	1,500	353	335
—, graduate student (one-third time).....	500	192	235
—, graduate student (one-third time).....	500	163	159
—, scholar (one-fifth time).....	150	148	84
Total (3½).....	7,350	1,635	1,692
Average.....	1,900	486	501

Classes.	Students in class.					
	1 to 5	6 to 10	11 to 20	21 to 30	31 to 40	41 to 50
Number of classes:						
First semester.....	2	4	2	2	4	1
Second semester.....	2	5	3	3	4	2

GERMAN.

Instructors.	Salary.	Student clock hours.	
		First semester.	Second semester.
—, professor.....	\$3,000	344	288
—, assistant professor.....	1,650	375	340
—, assistant professor.....	1,500	319	325
—, assistant professor.....	1,650	488	344
—, assistant professor.....	1,500	392	302
—, instructor.....	1,200	468	409
—, assistant (4 months).....	80	.....	.....
—, instructor.....	1,200	347	298
Total.....	11,700	2,733	2,306
Average.....	1,671	390	329

GERMAN—Continued.

Classes.	Students in class.					
	1 to 5	6 to 10	11 to 20	21 to 30	31 to 40	52 to 69
Number of classes:						
First semester.....	1	5	9	13	10	1
Second semester.....	3	4	13	17	2	1

GREEK.

Instructors.	Salary.	Student clock hours.	
		First semester.	Second semester.
—, professor and University editor.....	\$3,000	77	151
—, instructor ¹ (one-third time).....	400	17	16
—, stenographer.....	433		
Total (1½).....	3,400	94	167
Average.....		71	125

Classes.	Students in class.			
	1 to 5	6 to 10	11 to 20	30 to 40
Number of classes:				
First semester.....	4	3	2	1
Second semester.....	4	4	1	1

¹ Also manager of athletics, \$1,900.

HISTORY.

Instructors.	Salary.	Student clock hours.	
		First semester.	Second semester.
—, assistant professor and dean of women (one-fourth time).....		40	34
—, professor and dean.....	\$3,500	77	87
—, professor.....	2,100	154	172
—, assistant professor.....	2,000	206	185
— (one-fourth time).....	300	15	52
—, assistant (read notebooks) (one-fourth time).....	500		
—, assistant (read notebooks) (one-fourth time).....	200		
—, instructor.....	1,200	724	687
Total (5).....	9,800	1,216	1,217
Average.....	1,960	251	243

Classes.	Students in class.					
	1 to 5	6 to 10	11 to 20	21 to 30	31 to 40	50 to 62
Number of classes:						
First semester.....	6	5	4	3	1	2
Second semester.....	5	3	7	2	2	2

LATIN.

Instructors.	Salary.	Student clock hours.	
		First semester.	Second semester.
_____, professor.....	\$3,000	226	202
_____, professor.....	2,100	82	84
_____, assistant professor.....	1,500	163	147
Total (3).....	6,600	471	433
Average.....	2,200	157	144

Classes.	Students in class.			
	1 to 5	6 to 10	11 to 20	21 to 30
Number of classes:				
First semester.....	4	6	5	2
Second semester.....	4	6	6	1

MATHEMATICS.

Instructors.	Salary.	Student clock hours.	
		First semester.	Second semester.
_____, professor.....	\$3,000	112	121
_____, assistant professor.....	1,750	75	32
_____, assistant professor.....	1,750	276	204
_____, instructor.....	1,200	344	205
_____, instructor.....	1,200	375	212
_____, instructor.....	1,000	344	205
_____, instructor.....	1,200	290	250
_____, ² instructor (one-fifth time).....	300	8	19
Total (7½).....	11,400	1,824	1,148
Average.....	1,580	253	159

Classes.	Students in class.			
	1 to 5	6 to 10	11 to 20	21 to 30
Number of classes:				
First semester.....	7	7	11	5
Second semester.....	9	8	11	2

¹ Sick second semester; others carried load.² Instructor in high school, full time.

PHILOSOPHY AND PSYCHOLOGY.

Instructors.	Salary.	Student clock hours.	
		First semester.	Second semester.
_____, dean.....	\$3,500	447	416
_____, professor.....	2,500	102	86
_____, professor.....	2,400	165	200
_____, assistant professor.....	1,600	521	471
_____, assistant professor.....	1,500	192	170
Total (5).....	11,500	1,377	1,343
Average.....	2,300	275	269

PHILOSOPHY AND PSYCHOLOGY—Continued.

Classes.	Students in class.					
	1 to 5	6 to 10	11 to 20	21 to 30	31 to 40	144 to 173
Number of classes:						
First semester.....	5	4	4	2	0	2
Second semester.....	5	3	4	1	1	2

MILITARY TRAINING.

Instructors.	Salary.	Instructors.	Salary.
—, professor.....	\$500	—, bandmaster	\$500
—, assistant.....	500	Band members.....	460

PHYSICAL TRAINING FOR MEN.

Instructors.	Salary.	Instructors.	Salary.
—, director.....	\$1,600	—, physical director.....	\$1,200
—, assistant.....	100	—, assistant.....	300
—, assistant.....	100		

PHYSICAL TRAINING FOR WOMEN.

Instructors.	Salary.	Instructors.	Salary.
—, director.....	\$1,500	—, matron	\$300
—, assistant.....	800	—, medical examiner.....	250
—, assistant.....	600		

PHYSICS.

Instructors.	Salary.	Student clock hours.	
		First semester.	Second semester.
—, professor.....	\$3,000	57	186
—, assistant professor.....	1,850	424	356
—, assistant professor.....	1,850	335	130
—, instructor.....	1,200	323	270
—, assistant (half time).....	600	234	243
—, assistant (half time).....	600	252	234
—, assistant (half time).....	500	148	180
—, mechanician ¹	¹ 1,350		
—, shop assistants ¹	¹ 200		
—, undergraduate assistant.....	75	57	51
—, undergraduate assistant.....	75		
—, undergraduate assistant.....	75		
Total (6).....	9,825	1,817	1,680
Average.....	1,634	303	280

Classes.	Students in class.							
	1 to 5	6 to 10	11 to 20	21 to 30	69	73	111	133
Number of classes: ²								
First semester.....	8	4	18	3	0	1	0	1
Second semester.....	10	4	14	5	1	0	1	1

¹ Not included in total.² Lecture and laboratory both counted. About two-thirds as many small classes.

POLITICAL ECONOMY AND SOCIOLOGY.

Instructors.	Salary.	Student clock hours.	
		First semester.	Second semester.
_____, professor	\$3,000	283	Sick.
_____, professor	2,400	332	355
_____, associate professor	2,400	529	435
_____, instructor (three-fourths time)	1,500	177	259
_____, assistant professor	1,800	397	494
_____, assistant (half time)	500	154	270
Stenographer, assistant ¹	1 300		
_____, medical school	0	22	70
_____, law school	0	42	28
_____, extension	0	22	16
_____, extension	0	24	38
_____, extension	0	54	53
Total (5½)	11,600	2,041	2,018
Average	2,200	388	834

Classes.	Students in class.								
	1 to 5	6 to 10	11 to 20	21 to 30	31 to 40	41 to 50	53	68	89
Number of classes:									
First semester	6	5	8	4	1	5	1	1	1
Second semester	6	5	6	2	8	1	1	1	1

¹ Not included in total.

POLITICAL SCIENCE.

Instructors.	Salary.	Student clock hours.	
		First semester.	Second semester.
_____, professor	\$2,600	327	368
_____, assistant professor	1,750	285	315
_____, instructor (half time)	500	117	156
_____, assistant (half time)	500	176	180
_____, assistant (half time)	500	102	176
_____, lecturer	100	28	54
Total (3½)	5,950	1,035	1,249
Average	1,700	296	356

Classes.	Students in class.							
	1 to 5	6 to 10	11 to 20	21 to 30	31 to 40	41 to 50	56	68
Number of classes:								
First semester	3	2	4	2	5	0	1	0
Second semester	3	1	1	7	4	1	0	1

¹ Was also director of Iowa Historical Society and drew salary as such.

ROMANCE LANGUAGES.

Instructors.	Salary.	Student clock hours.	
		First Semester.	Second semester.
_____, professor	\$2,800	503	363
_____, assistant professor	1,500	526	318
_____, instructor	1,200	302	260
_____, instructor	1,000	437	481
Total (4)	6,500	1,768	1,422
Average	1,625	442	356

Classes.	Students in class.					
	1 to 5	6 to 10	11 to 20	21 to 30	31 to 40	41 to 50
Number of classes:						
First semester	2	2	5	2	5	2
Second semester	2	4	6	5	1	1

ZOOLOGY.

Instructors.	Salary.	Student clock hours.	
		First semester.	Second semester.
_____, professor and director	\$3,000	315	300
_____, professor	2,300	506	539
_____, professor	2,100	277	305
_____, assistant professor	2,000	72	78
_____, assistant professor	1,600	318	145
_____, instructor	1,100	186	159
_____, assistant	1,000	110	108
_____, assistant	400	62	56
_____, assistant	350	186	158
_____, assistant	200	52	46
_____, undergraduate assistant, half time	50	101	85
_____, undergraduate assistant, half time	50	101	85
_____, storekeeper, half time ¹	1 50		
_____, mimeographer, half time ¹	1 50		
Total (8½)	14,300	2,387	2,152
Average	1,685	279	253

Classes.	Students in class.									
	1 to 5	6 to 10	11 to 20	21 to 30	31 to 40	41 to 50	51 to 60	74	81	90
Number of classes:										
First semester	10	4	3	2	7	2	1	0	0	2
Second semester	12	4	4	4	2	4	0	1	1	0

¹ Not included in total.

HOME ECONOMICS.

Instructors.	Salary.	Student clock hours.	
		First semester.	Second semester.
_____, professor.....	\$3,000	268	159
_____, assistant professor.....	2,500	603	594
_____, instructor.....	900	246	230
_____, clerk to dean ¹	1 960	.....	.....
Total (3).....	6,400	1,127	983
Average.....	2,133	376	328

Classes.	Students in class.						
	1 to 5	6 to 10	11 to 20	55	56	63	71
Number of classes:							
First semester.....	0	1	1	1	1	1	1
Second semester.....	2	2	1	1	1	1	1

¹ Not included in total.

IOWA STATE COLLEGE OF AGRICULTURE AND MECHANIC ARTS.

AGRICULTURAL EDUCATION.

Instructors.	Salary.	Student clock hours.	
		First semester.	Second semester.
_____, professor.....	\$2,700	51	191
_____, assistant professor (one-third time).....	500	30	174
_____, assistant professor.....	2,000	141	226
_____, assistant (one-half time).....	1,000	100	56
Total (2½).....	6,200	322	627
Average.....	2,200	114	222

Classes.	Students in class.			
	6 to 10	11 to 20	31 to 40	51 to 60
Number of classes:				
First semester.....	5	1	3	2
Second semester.....	2	3	2	2

AGRICULTURAL JOURNALISM.

Instructors.	Salary.	Student clock hours.	
		First semester.	Second semester.
_____, professor (one-fourth time).....	\$712	90	146
_____, assistant professor.....	1,450	146	170
Total (1½).....	2,162	236	316
Average.....	1,730	189	252

AGRICULTURAL JOURNALISM—Continued.

Classes.	Students in class.				
	1 to 5	6 to 10	11 to 20	21 to 30	31 to 40
Number of classes:					
First semester.....		3	4	2	.....
Second semester.....	2	1	5	2	1

AGRICULTURAL ENGINEERING.

Instructors.	Salary.	Student clock hours.	
		First semester.	Second semester.
....., instructor.....	\$1,100	640	576
....., instructor.....	1,100	748	472
....., instructor.....	1,300	438	440
....., instructor.....	1,300	347	368
....., professor (one-half time; experiment station one-half time).....	1,500	126	275
....., assistant professor.....	1,800	600	476
....., associate professor.....	2,250	315	342
Total (5½).....	10,350	3,214	2,950
Average.....	1,590	495	455

Classes.	Students in class.					
	1 to 5	6 to 10	11 to 20	21 to 30	31 to 40	41 to 50
Number of classes:						
First semester.....	1	5	13	13	11	2
Second semester.....	3	8	22	15	6	1

ANIMAL HUSBANDRY.

Instructors.	Salary.	Student clock hours.	
		First semester.	Second semester.
....., professor (one-half time).....	\$1,500	624	255
....., professor.....	2,600	552	526
....., associate professor.....	1,700	627	724
....., associate professor.....	1,900	568	565
....., associate professor.....	1,600	662	573
....., associate professor.....	1,700	678	712
....., professor (one-half time).....	1,250	173	190
....., scholar.....	200	($\frac{1}{2}$)	(lab.) 124
....., scholar.....	200	($\frac{1}{2}$)	(lab.) 112
....., professor (one-half time at dairy farm).....	1,250	($\frac{2}{3}$)	226
....., assistant professor.....	250	($\frac{2}{3}$)	184
....., .....	.....	($\frac{1}{2}$)	115
.....,	1,500	90	92
Total (7½).....	15,650	3,974	4,401
Average.....	2,170	528	517

Classes.	Students in class.									
	1 to 5	6 to 10	11 to 20	21 to 30	31 to 40	41 to 50	51 to 60	61 to 70	81 to 90	125
Number of classes:										
First semester.....	.....	2	2	7	13	7	2	4	1	1
Second semester.....	1	.....	5	19	21	7	1	1	.....	1

BACTERIOLOGY.

Instructors.	Salary.	Student clock hours.	
		First semester.	Second semester.
—, professor and dean (nine-tenths time).....	\$2,700	132	237
—, assistant (one-half time).....	500	84	184
—, assistant professor (six-sevenths time).....	1,200	173	274
—, assistant (one-half time).....	600	53	232
Total.....	5,000	442	927
Average.....	1,850	164	342

Classes.	Students in class.					
	1 to 5	6 to 10	11 to 20	21 to 30	41 to 50	51 to 60
Number of classes:						
First semester.....	14	4	7	1		
Second semester.....	6	6	15		1	1

BOTANY.

Instructors.	Salary.	Student clock hours.	
		First semester.	Second semester.
—, professor (thirteen-fifteenths time).....	\$2,600	274	316
—, associate professor.....	2,000	548	193
—, assistant professor.....	1,350	211	385
—, instructor (one-half time).....	600	159	95
—, instructor.....	900	222	315
—, fellow (two-fifths time).....	400	126	34
—, instructor.....	800	506	293
—, student assistant (one-fifth time).....	200	240	134
—, student assistant (one-fifth time).....	200	256	78
—, student assistant (one-fifth time).....	200	126	244
—, (one-tenth time).....	50		78
—, (one-tenth time).....	50		56
—, (one-tenth time).....	50		69
—, (one-tenth time).....	50		40
Total (6½).....	9,450	2,668	2,350
Average.....	1,490	423	349

Classes.	Students in class.							
	1 to 5	6 to 10	11 to 20	21 to 30	31 to 40	41 to 50	51 to 60	61 to 70
Number of classes:								
First semester.....	14	6	15	23	6	1	2	2
Second semester.....	1	4	21	16	5	5	3	

CHEMISTRY.

Instructors.	Salary.	Instructors.	Salary.
—, professor.....	\$2,700	—, assistant.....	\$900
—, associate professor.....	1,800	—, assistant.....	900
—, associate professor.....	1,800	—, assistant.....	950
—, associate professor.....	1,800	—, instructor.....	900
—, instructor.....	1,300	—, instructor.....	800
—, instructor.....	1,200	—, instructor.....	800
—, instructor.....	1,200	—, instructor.....	800
—, instructor.....	1,000	—, assistant instructor (three-fourths time).....	700
—, instructor.....	900	—, associate professor.....	2,000
—, assistant instructor.....	900	—, student assistant (one-tenth time).....	.....
—, instructor (one-fourth time).....	300	—, (one-sixth time).....	.....
—, assistant (one-half time).....	400	17 others.....	.....
—, assistant.....	850		

Instructors.	Salaries.	Student clock hours.	
		First semester.	Second semester.
Total (24½).....	\$26,492	10,572	9,095
Average.....	1,080	430	372

Classes.	Students in class.											
	1 to 5	6 to 10	11 to 20	21 to 30	31 to 40	41 to 50	51 to 60	61 to 70	71 to 80	81 to 90	91 to 100	100 to 325
Number of classes:												
First semester.....	27	5	40	34	14	8	5	2	1	1	1	6
Second semester.....	28	13	29	19	12	2	9	2	0	2	2	7

The whole number of student clock hours was, for the first semester, 10,572; for the second semester, 9,095. The average for first semester was 430; for the second semester, 372.

CIVIL ENGINEERING.

Instructors.	Salary.	Student clock hours.	
		First semester.	Second semester.
—, assistant professor.....	\$1,400	606	895
—, associate professor.....	2,000	534	617
—, instructor.....	1,000	679	407
—, professor (four-fifths time).....	2,200	331	477
—, professor.....	2,400	378	190
—, professor and dean.....	4,000	.....	164
—, instructor (half time).....	800	156	115
—, associate professor (seventeen-eightieths time).....	1,700	96	68
—, associate professor (five-sixths time).....	1,500	167	155
—, associate professor (three-fifths time).....	1,500	169	42
—, instructor.....	1,200	192	132
Total (\$½).....	16,000	3,308	3,262
Average.....	1,820	376	373

Classes.	Students in class.							
	1 to 5	6 to 10	11 to 20	21 to 30	31 to 40	41 to 50	51 to 60	61 to 70
Number of classes:								
First semester.....	12	16	21	10	1	1	1	.....
Second semester.....	11	11	14	8	3	1	1	1

DAIRY.

Instructors.	Salary.	Student clock hours.	
		First semester.	Second semester.
—, professor (half time).....	\$1,500	109	198
—, associate professor (half time).....	1,000	53	132
—, associate professor.....	1,900	534	678
—, instructor.....	1,500	.....	48
—, instructor.....	1,200	10	173
—, instructor.....	1,200	.....	464
Total (4½).....	8,300	786	1,743
Average.....	1,840	197	349

ECONOMIC SCIENCE.

Instructors.	Salary.	Student clock hours.	
		First semester.	Second semester.
—, professor (twenty-two twenty-fifths time).....	\$2,200	235	58
—, assistant professor (half time).....	900	19	72
—, associate professor (three-fourths time).....	1,500	360	93
—, assistant professor.....	1,500	315	282
Total (3).....	6,100	929	505
Average.....	2,030	310	168

Classes.	Students in class.						
	1 to 5	6 to 10	11 to 20	21 to 30	31 to 40	41 to 50	51 to 60
Number of classes:							
First semester.....	1	3	1	2	2	3	2
Second semester.....	1	6	4	1	1	2	.....

ELEMENTARY ENGLISH.

Instructors.	Salary.	Student clock hours.	
		First semester.	Second semester.
—, professor (twenty-seven twenty-ninths time).....	\$2,700	212	146
—, assistant professor.....	1,900	47	192
—, assistant professor.....	1,500	204	111
—, assistant professor.....	1,400	114	153
Total (4).....	7,500	577	602
Average.....	1,875	144	150

Classes.	Students in class.					
	1 to 5	6 to 10	11 to 20	21 to 30	31 to 40	41 to 50
Number of classes:						
First semester.....	1	5	5	1	2	.....
Second semester.....	1	3	7	3	.....	1

ENGLISH AND LITERATURE.

Instructors.	Salary.	Student clock hours.	
		First semester.	Second semester.
—, professor.....	\$2,500	60	36
—, instructor.....	900	188	122
—, instructor.....	1,100	292	185
—, assistant professor.....	1,400	254	144
—, instructor.....	900	276	242
—, instructor.....	1,150	232	132
—, assistant professor.....	1,250	110	126
—, associate professor.....	1,700	194	98
—, instructor.....	1,000	221	172
—, associate professor.....	1,400	138	218
—, assistant professor.....	1,400	222	192
—, instructor.....	1,200	228	234
—, instructor.....	950	318	160
—, instructor.....	950	219	139
—, instructor.....	1,000	74	159
Total.....	18,800	3,026	2,359
Average.....	1,253	202	157

Classes.	Students in class.				
	1 to 5	6 to 10	11 to 20	21 to 30	31 to 40
Number of classes:					
First semester.....	4	15	42	27	.....
Second semester.....	3	7	22	.....	1

HOME ECONOMICS.

Instructors.	Salary.	Student clock hours.	
		First semester.	Second semester.
—, professor and dean.....	\$2,500	207	76
—, instructor.....	1,000	249	363
—, instructor.....	1,200	328	310
—, instructor.....	900	200	379
—, associate professor.....	1,200	468	394
—, associate professor.....	1,600	125	55
—, associate professor.....	1,300	418	537
—, instructor.....	1,200	532	402
—, instructor.....	1,000	301	251
—, assistant professor (half time).....	700	299	.....
—, instructor.....	1,000	386	272
—, associate professor (half time).....	750	339	.....
—, instructor.....	1,000	386	322
—, instructor.....	1,000	488	356
—, assistant professor (two-thirds time).....	1,000	179	174
—, instructor (half time).....	700	.....	402
—, associate professor (half time).....	1,050	.....	242
Total (15½).....	19,100	4,905	4,535
Average.....	1,320	346	321

Classes.	Students in class.							
	1 to 5	6 to 10	11 to 20	21 to 30	31 to 40	41 to 50	51 to 60	61 to 70
Number of classes:								
First semester.....	1	2	51	30	10	2	3	1
Second semester.....	2	5	41	28	4	5	0	0

FARM CROPS.

Instructors.	Salary.	Student clock hours.	
		First semester.	Second semester.
—, professor (half time).....	\$3,000	309	525
—, instructor.....	1,300	142	157
—, instructor.....	1,200	420	192
—, assistant professor.....	2,000	550	272
—, associate professor.....	2,100	487	525
—, fellow (two-fifths time).....	400	298	100
—, professor (half time, farm management).....	1,200	¹ 315	.....
—, fellow (two-fifths time).....	200	105	.....
—, fellow (two-fifths time).....	300	.....	101
—, scholar.....	200	.....	21
Total (7 $\frac{3}{10}$).....	11,900	2,626	1,893
Average.....	1,630	387	320

Classes.	Students in class.						
	1 to 5	6 to 10	11 to 20	21 to 30	31 to 40	41 to 50	51 to 60
Number of classes:							
First semester.....	1	4	5	15	19	1	.....
Second semester.....	2	3	4	21	6	.....	1

¹ Experiment station.

HORTICULTURE.

Instructors.	Salary.	Student clock hours.	
		First semester.	Second semester.
—, professor and vice dean (20/33 time).....	\$2,000	343	18
—, instructor.....	1,300	301	250
—, instructor.....	1,300	222	251
—, instructor.....	1,200	297	283
—, assistant professor.....	1,500	312	305
—, instructor.....	1,200	152	61
Total (5 20/33).....	8,500	1,627	1,168
Average.....	1,500	286	206

Classes.	Students in class.							
	1 to 5	6 to 10	11 to 20	21 to 30	31 to 40	41 to 50	51 to 60	61 to 70
Number of classes:								
First semester.....	11	8	14	15	.....	3	.....	1
Second semester.....	13	5	9	11	1	.....	.....	.....

MECHANICAL ENGINEERING.

Instructors.	Salary.	Student clock hours.	
		First semester.	Second semester.
professor (27/29 time).....	\$2,700	210	395
instructor.....	1,100	1,650	927
instructor.....	1,050	558	492
instructor.....	1,050	859	156
instructor.....	1,050	792	576
assistant professor.....	1,300	333	928
instructor.....	1,050	254	378
instructor.....	900	58	378
assistant professor.....	1,500	164	188
associate professor.....	2,200	231	170
assistant professor.....	1,500	259	235
associate professor.....	1,950	201	300
associate professor.....	1,900	331	265
associate professor.....	1,700	498	278
instructor.....	1,000	.....	158
student assistant.....	200	.....	253
Total (14 24/29).....	22,150	6,398	6,075
Average.....	1,475	426	430

Classes.	Students in class.								
	1 to 5	6 to 10	11 to 20	21 to 30	31 to 40	41 to 50	51 to 60	61 to 70	71 to 80
Number of classes:									
First semester.....	10	7	34	13	9	8	1	1	1
Second semester.....	43	39	37	22	5	2	2	.....	.....

PHYSICS.

Instructors.	Salary.	Student clock hours.	
		First semester.	Second semester.
professor (14/15 time).....	\$2,800	609	.....
instructor.....	1,100	246	88
assistant professor.....	1,300	114	240
assistant professor.....	1,500	418	342
assistant professor.....	1,500	225	517
instructor.....	1,000	274	236
instructor.....	1,000	74	248
instructor.....	1,200	275	86
assistant professor.....	1,400	125	177
instructor (half time).....	500	.....	252
Total (9 6/15).....	13,300	2,360	2,186
Average.....	1,490	266	220

Classes.	Students in class.								
	1 to 5	6 to 10	11 to 20	21 to 30	31 to 40	71 to 80	81 to 90	100 to 120	136 to 200
Number of classes:									
First semester.....	3	2	37	6	2	3	.....	1	.....
Second semester.....	2	14	57	3	.....	1	3	.....	2

ZOOLOGY.

Instructors.	Salary.	Student clock hours.	
		First semester.	Second semester.
— (eleven-thirteenths time)	\$2,200	4	(1) 484
—, associate professor	2,000	180	375
—, instructor	1,000	326	160
—, associate professor (half time)	850	122	400
—, assistant professor	1,300	330	154
—, instructor (half time)	600	49	240
—, instructor (half time)	600	214	743
—, assistant professor	1,500	248	31
—, assistant professor	1,600	293	216
—, (one-tenth time)	50	—	—
—, (one-tenth time)	65	217	—
Total (7½)	11,765	1,819	2,967
Average	1,550	280	456

Classes.	Students in class.								
	1 to 5	6 to 10	11 to 20	21 to 30	31 to 40	41 to 50	51 to 60	71 to 80	81 to 90 139
Number of classes:									
First semester	7	13	18	5	—	1	—	1	—
Second semester	21	14	31	7	2	1	6	1	2

¹ Sick.

MATHEMATICS.

Instructors.	Salary.	Student clock hours.	
		First semester.	Second semester.
—, instructor	\$1,200	274	302
—, instructor	1,300	233	318
—, associate professor	1,600	221	381
—, instructor	1,200	320	294
—, instructor (half time)	500	269	—
—, instructor	850	238	225
—, assistant (half time)	500	275	—
—, associate professor	1,600	297	250
—, associate professor	1,600	212	251
—, associate professor	1,600	286	243
—, instructor	1,300	307	231
—, instructor	1,000	267	208
—, professor (vice dean)	2,100	215	112
Total	16,350	3,414	2,815
Average	1,370	262	235

Classes.	Students in class.			
	1 to 5	6 to 10	11 to 20	21 to 30
Number of classes:				
First semester	3	0	32	11
Second semester	7	1	24	9

PUBLIC SPEAKING.

Instructors.	Salary.	Student clock hours.	
		First semester.	Second semester.
_____, instructor	\$1,100	178	59
_____, instructor	900	35	52
_____, associate professor	1,400	264	224
Total	3,400	397	323
Average	1,133	132	108

Classes.	Students in class.			
	1 to 5	6 to 10	11 to 20	21 to 30
Number of classes:				
First semester	5	4	13	0
Second semester	1	5	9	1

FORESTRY.

Instructors.	Salary.	Student clock hours.	
		First semester.	Second semester.
_____, associated professor	\$1,800	157	200
_____, instructor	1,400	248	200
_____, professor ($\frac{2}{3}$ time)	1,300	.....	16
Total	4,500	405	416
Average	1,740	160	164

Classes.	Students in class.				
	6 to 10	11 to 20	21 to 30	31 to 40	41 to 50
Number of classes:					
First semester	3	4	2	0	2
Second semester	3	2	0	4	0

GEOLOGY AND MINING ENGINEERING.

Instructors.	Salary.	Student clock hours.	
		First semester.	Second semester.
_____, professor and vice dean ($\frac{2}{3}$ time)	\$3,300	85	139
_____, assistant professor	1,500	77	110
_____, associate professor	2,200	84	56
Total (2.94)	7,000	256	305
Average	2,380	87	91

Classes.	Students in class.		
	1 to 5	6 to 10	11 to 20
Number of classes:			
First semester	10	3	1
Second semester	8	2	1

HISTORY.

Instructors.	Salary.	Student clock hours.	
		First semester.	Second semester.
—, assistant professor	\$1,200	96	333
—, associate professor	2,250	93	252
Total	3,450	189	615
Average	1,725	95	308

Classes.	Students in class.				
	1 to 5	6 to 10	11 to 20	21 to 30	41 to 50
Number of classes:					
First semester	2	1	4	1	.....
Second semester		1	1	4	4

SOILS.

Instructors.	Salary.	Student clock hours.	
		First semester.	Second semester.
—, professor (half time)	\$1,750	200	182
—, associate professor	2,100	413	436
—, assistant professor	1,600	464	191
—, instructor (half time)	600	464	191
—, professor (half time)	1,250	193	60
Total (3½)	7,300	1,734	1,060
Average	2,090	495	304

Classes.	Students in class								
	1 to 5	6 to 10	11 to 20	21 to 30	31 to 40	41 to 50	51 to 60	61 to 70	81 to 90
Number of classes:									
First semester	2	2	3	2	5	1	2	.....	1
Second semester	11	4	5	3	1	1	.....	1	.....

MODERN LANGUAGES.

Instructors.	Salary.	Student clock hours.	
		First semester.	Second semester.
—, professor	\$2,250	114	63
—, instructor	1,200	292	268
—, instructor	1,200	210	175
—, instructor	1,200	278	228
—, instructor	1,200	247	275
—, instructor	1,200	260	331
Total	7,950	1,401	1,280
Average	1,325	234	313

MODERN LANGUAGES—Continued.

Classes.	Students in class.				
	1 to 5	6 to 10	11 to 20	21 to 30	31 to 40
Number of classes:					
First semester.....	6	2	9	5	.....
Second semester.....	7	6	16	2	1

MUSIC.

Instructors.	Salary.	Student clock hours.	
		First semester.	Second semester.
—, associate professor (half time).....	\$800	116	274
—,	200	.....	62
Total.....	1,000	116	336
Average.....	.....	232	376

Classes.	Students in class.					
	1 to 5	6 to 10	21 to 30	31 to 40	41 to 50	51 to 60
Number of classes:						
First semester.....	.....	2	.....	1	1	1
Second semester.....	5	.....	2	1	1	2

PSYCHOLOGY.

Instructors.	Salary.	Student clock hours.	
		First semester.	Second semester.
—, professor and chaplain.....	\$3,000	92	126
—, assistant professor.....	1,500	464	297
Total.....	4,500	556	423
Average.....	2,250	278	211

Classes.	Students in class.					
	1 to 5	6 to 10	11 to 20	21 to 30	31 to 40	51 to 60
Number of classes:						
First semester.....	.....	.....	2	1	2	1
Second semester.....	1	2	5	1	1	.....

STRUCTURE DESIGN.

Instructor.	Salary.	Student clock hours.	
		First semester.	Second semester.
—, associate professor	\$2,500	115	443

Classes.	Students in class.			
	1 to 5	6 to 10	11 to 20	21 to 30
Number of classes:				
First semester	3	3	2	0
Second semester	5	2	0	2

VETERINARY MEDICINE.

Instructors.	Salary.	Student clock hours.	
		First semester.	Second semester.
—, instructor	\$1,200	252	254
—, associate professor	2,000	317	299
—, professor	2,250	250	482
—, associate professor	1,900	798	184
—, instructor	1,200	576	279
—, instructor (two-fifths time)	400	120	40
—, professor	2,250	320	211
—, professor and vice dean	2,600	175	230
—, assistant professor	1,800	100	148
—, dean (five-eighths time)	3,000	57	.....
Total	18,600	2,715	2,127
Average	2,065	302	236

Classes.	Students in class.								
	1 to 5	6 to 10	11 to 20	21 to 30	31 to 40	51 to 60	61 to 70	71 to 80	81 to 90
Number of classes:									
First semester	4	2	10	7	2	1	2	1	1
Second semester	3	.....	13	8	2	.....	.....	1	.....

INSTRUCTORS AND STUDENT CLOCK HOURS.

First semester:	
Number of instructors	189.6
Number of student clock hours	61,069
Average number of student clock hours	322
Second semester:	
Number of instructors	190.8
Number of student hours	58,354
Average number of student hours	305

IOWA STATE TEACHERS COLLEGE.

EDUCATION.

Instructors.	Salary.	Student clock hours.			
		Summer.	Fall.	Winter.	Spring.
—, professor	\$2,700	560	420	310	540
—, professor	1,400	940	620	780	505
—, professor	2,000	.....	390	465	345
—, professor	2,000	720	660	525	614
—, professor	1,300	.....	555	595	475
—, professor	1,900	380	640	650	405
—, professor	1,800	.....	460	365	515
Total (7)	13,100	2,600	3,745	3,690	3,399
Average	1,871	650	535	527	485

Classes.	Number of students.						
	1 to 5	6 to 10	11 to 20	21 to 30	31 to 40	41 to 50	51 to 60
Number of classes	0	2	4	8	10	2	3

TEACHING.

Instructors.	Salary.	Student clock hours.			
		Summer.	Fall.	Winter.	Spring.
—	\$2,400	.....	11	.....	.....
—	1,300	154	136	143	141
—	1,300	154	136	147	158
—	650	185	133	150	417
—	1,200	154	111	140	155
—	850	.....	265	270	397
— .....	.....	² 1,305	.....	.....	.....
—	1,100	.....	91	108	121
—	1,100	154	141	130	162
—	1,100	.....	20	30	54
—	1,000	.....	140	95	96
—	1,400	185	133	150	417
—	1,400	.....	265	270	397
Total (12)	14,800	2,291	1,571	1,633	2,515
Average	1,233	327	143	148	229

ENGLISH.

Instructors.	Salary.	Student clock hours.			
		Summer.	Fall.	Winter.	Spring.
—, professor	\$2,300	410	418	320	279
—, professor	1,500	365	367	600	492
—, professor	2,000	340	463	402	399
—, professor	1,700	440	310	490	350
—	1,500	.....	277	366	364
—	1,700	214	303	197	276
—	1,300	.....	392	380	405
Total (7)	12,000	1,769	2,530	2,755	2,565
Average	1,714	354	361	393	366

¹ Director.² Lectures and demonstration teaching.

ENGLISH—Continued.

Classes.	Number in class.					
	1 to 5	6 to 10	11 to 20	21 to 30	31 to 40	41 to 50
Number of classes.....	1	4	9	6	2	1

LATIN.

Instructors.	Salary.	Student clock hours.			
		Summer.	Fall.	Winter.	Spring.
.....	\$2,300	100	141	160	167
.....	1,400	120	190	205	145
Total (2).....	3,700	220	331	365	312
Average.....	1,850	110	165	183	156

Classes.	Number in class.		
	1 to 5	6 to 10	11 to 20
Number of classes.....	3	5	2

GERMAN AND FRENCH.

Instructors.	Salary.	Student clock hours.			
		Summer.	Fall.	Winter.	Spring.
.....	\$2,300	325	375	365	345
.....	1,100	190	295	290	120
Total (2).....	3,400	515	670	655	465
Average.....	1,700	258	335	328	233

Classes.	Number in class.				
	1 to 5	6 to 10	11 to 20	21 to 30	31 to 40
Number of classes.....	2	2	$\frac{1}{2}$	2	1

MATHEMATICS.

Instructor.	Salary.	Student clock hours.			
		Summer.	Fall.	Winter.	Spring.
.....	\$2,300	595	245	219	220

Classes.	Number in class.			
	1 to 5	6 to 10	11 to 20	21 to 30
Number of classes.....	1	1	$\frac{1}{2}$	1

PHYSICS AND CHEMISTRY.

Instructors.	Salary.	Student clock hours.			
		Summer.	Fall.	Winter.	Spring.
.....	\$2,300	736	164	168	202
.....	1,500	.....	503	377	273
.....	.....	157	.....	.....	.....
.....	1,200	151	458	259	239
.....	1,300	.....	140	84	245
Total (5)	6,300	1,044	1,265	888	959
Average	1,575	348	316	222	240

Classes.	Number in class.			
	1 to 5	6 to 10	11 to 20	21 to 30
Number of classes	4	1	5	3

NATURAL SCIENCES.

Instructors.	Salary.	Student clock hours.			
		Summer.	Fall.	Winter.	Spring.
.....	\$2,100	217	567	253	1,162
.....	2,000	1,110	427	660	734
.....	1,900	746	448	287	511
.....	1,400	529	344	126	579
Total	7,400	2,602	1,786	1,326	2,986
Average	1,850	650	446	331	746

Classes.	Number in class.						
	1 to 5	6 to 10	11 to 20	21 to 30	31 to 40	41 to 50	51 to 60
Number of classes	3	3	3	3	2	1	3

HISTORY.

Instructors.	Salary.	Student clock hours.			
		Summer.	Fall.	Winter.	Spring.
.....	\$1,500	410	405	285	196
.....	1,400	390	475	500	610
Total	2,900	800	880	785	806
Average	1,450	400	440	393	403

Classes.	Number in class.					
	1 to 5	6 to 10	11 to 20	21 to 30	31 to 40	41 to 50
Number of classes	3	1	3	2	2	3

GOVERNMENT.

Instructors.	Salary.	Student clock hours.			
		Summer.	Fall.	Winter.	Spring.
.....	\$2,200	766	287	180	295

Classes.	Number in class.			
	6 to 10	11 to 20	21 to 30	31 to 40
Number of classes.....	2	1	$\frac{1}{2}$	$\frac{1}{2}$

ECONOMICS.

Instructors.	Salary.	Student clock hours.			
		Summer.	Fall.	Winter.	Spring.
.....	\$1,800	467	321	436	366

Classes.	Number in class.	
	11 to 20	21 to 30
Number of classes.....	2	2

ART.

Instructors.	Salary.	Student clock hours.			
		Summer.	Fall.	Winter.	Spring.
.....	\$1,500	460	90	195	225
.....	1,400	375	175	330	350
.....	1,100	.....	270	535	330
.....	.....	640	.....	.....	.....
Total.....	4,000	1,475	535	1,060	905
Average.....	1,333	492	178	353	301

Classes.	Number in class.				
	1 to 5	6 to 10	11 to 20	21 to 30	31 to 40
Number of classes.....	1	4	3	3	$\frac{1}{2}$

MUSIC.

Instructors.	Salary.	Student clock hours.			
		Summer.	Fall.	Winter.	Spring.
.....	\$2,300	770	626	240	402
.....	1,300	.....	334	224	68
.....	1,500	.....	146	473	239
Total.....	5,100	770	1,106	937	709
Average.....	1,700	770	368	312	236

Classes.	Students in class.						
	1 to 5	6 to 10	11 to 20	21 to 30	31 to 40	41 to 50	51 to 60
Number of classes.....	1	2	3	2	1	$\frac{1}{2}$	1

MANUAL ARTS.

Instructors.	Salary.	Student clock hours.			
		Summer.	Fall.	Winter.	Spring.
.....	\$2,300	215	135	193	304
.....	1,300	293	229	367	407
Total.....	3,600	508	364	560	711
Average.....	1,800	254	182	280	356

Classes.	Number in class.			
	1 to 5	6 to 10	11 to 20	21 to 30
Number of classes.....	1	4	3	1

HOME ECONOMICS.

Instructors.	Salary.	Student clock hours.			
		Summer.	Fall.	Winter.	Spring.
.....	\$1,600	280	286	340	254
.....	900	300	220	254	261
.....	336	280	.....	.....	.....
.....	1,000	.....	187	299	200
Total.....	3,500	916	973	893	715
Average.....	1,166	305	243	298	238

Classes.	Number in class.				
	1 to 5	6 to 10	11 to 20	21 to 30	31 to 40
Number of classes.....	$\frac{1}{2}$	2	11	3	$\frac{2}{3}$

APPEN

ANALYSIS OF EXPENDITURES

Construction and land, \$58,885.81.	Training school.....	\$39,050.49
	Library.....	564.64
	Power house.....	16,243.40
	Dormitory.....	401.05
	Paving and walks.....	549.19
	Furnishing new building.....	2,077.04
		<hr/> 58,885.81
Special funds \$1,649.33	Operating hospital....	1,644.33
	Fees refunded.....	5.00
		<hr/> 1,649.33
Total operating expenses, \$237,953.51.....		

Teachers College, exclusive of extension work, \$298,488.65.

Iowa State Teachers College, total expenditures, 1913-14, \$298,808.65.

Extension and industrial service, \$320.	} Study center work (extension).....	\$320.00
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AT IOWA STATE INSTITUTIONS.

	Education.....	\$13,550.00
	Teaching.....	19,214.01
	English.....	17,500.00
	Latin and Greek.....	3,700.00
	German and French...	4,200.00
	Mathematics.....	7,500.00
	Physics and chemistry	8,560.00
	Natural science.....	9,933.33
	History.....	2,910.00
	Government.....	3,300.00
	Home economics.....	5,950.00
	Economics.....	1,700.00
Instruction, \$139,984.63.....	Musical.....	7,220.00
	Art.....	3,373.33
	Commercial education.	2,820.00
	Manual arts.....	4,500.00
	Physical education....	5,930.00
	Balance, salaries.....	188.97
		<hr/> 122,049.64
	Summer term.....	17,934.99
		<hr/> 139,984.63

185

Construction and land, \$86,013.52.	Training school.....	\$607.98
	Power house.....	2,415.09
	Dormitory.....	72,084.87
	Vocational building...	8,879.94
	Furnishing new building.....	938.29
	Paving and walks.....	1,087.35
		<hr/> 86,013.52

Special funds, \$1,779.93. Operating hospital.... 1,779.93

Teachers College, exclusive of extension work, \$349,495.82.

Total operating expenses, \$261,702.37

Iowa State Teachers College, total expenditures, 1914-15, \$357,598.33.

Extension and industrial service, \$8,102.51 } Study center work (extension)..... \$8,102.51

Education, equipment, and supplies, \$19, 745.08.	Library books and sup- plies	\$7,747.07
	Home economics	2,767.03
	Physics and chemistry	1,391.25
	Training school	1,441.61
	Natural science	1,210.66
	Music and orchestra	1,143.46
	Manual training	677.61
	Physical education	617.47
	Rural education	1,043.03
	General use of depart- ment	1,341.71
	Other departments	364.18
		<hr/> 19,745.08

Instruction, \$158,581.60.....

Education.....	\$13, 100.00
Teaching.....	19, 698.75
English.....	18, 125.60
Latin and Greek.....	3, 700.00
German and French.....	4, 300.00
Mathematics.....	7, 500.00
Physics and chemistry.....	9, 975.00
Natural science.....	11, 530.50
History.....	2, 900.00
Government.....	3, 600.00
Home economics.....	7, 435.00
Economics.....	3, 000.00
Music.....	8, 280.00
Art.....	4, 040.00
Commercial education.....	2, 900.00
Manual arts.....	4, 620.00
Physical education.....	6, 550.00
Rural education.....	6, 632.50
	<hr/>
	137, 886.75
Summer term.....	20, 694.85
	<hr/>
	158, 581.60

	Salaries.	Labor, equipment, supplies.
Administration	\$19,385.00	\$2,961.32
Library	10,359.39	.....
Commencement .....	.....	981.55
Superintendent build- ings and assistant ...	2,700.00	.....
Janitor and grounds ...	10,302.00	1,000.00
Engineer and firemen ..	4,267.00	2,000.00
Fuel .....	.....	13,017.08
Repairs	3,465.00	9,092.80
Printing .....	.....	2,808.23
Advertising .....	.....	663.30
Telephone and tele- graph .....	.....	373.02
		<hr/> 32,897.30
General operating ex- penses, \$83,375.69.	50,478.39	

					Hospital.....	\$47,547.37
					Currier Hall.....	84,643.64
					Annual House.....	13,582.25
					Chemical building.....	7,931.55
					Storehouse.....	3,127.76
					Other buildings.....	1,688.93
					Construction and land, \$212,766.33.	
					Equipping new build- ings.....	28,142.52
					Land purchases.....	12,395.59
					Tunnel.....	8,713.73
					Paving and walks.....	4,992.99
						212,766.33
					Hospital.....	\$50,235.84
					Homeopathic hos- pital.....	8,025.92
					Currier Hall.....	19,267.80
					Law loan books.....	168.40
					Storehouse.....	1,880.93
					Tuition refund.....	25.00
					Carr fund.....	2,330.00
					Gifford fund.....	182.05
					Lowden fund.....	150.00
					Bryan fund.....	10.00
					Special funds, \$82,- 275.94.	
						82,275.94
					State University, ex- clusive of extension and service, \$933,- 759.86.	
					Total operating expenses, \$638,717.59	
					The University of Iowa, total expenditures, 1913-14, \$944,058.75.	
					Extension and indus- trial service work, \$10,298.89.	
					Epidemiologist.....	\$3,276.98
					University extension.....	7,021.91
						10,298.89

Educational equip- ment and supplies, \$95,406.15.	Library books and supplies.....	\$21,006.73
	College of arts.....	22,354.73
	College applied sci- ence.....	12,527.92
	College of law.....	500.12
	College of medicine....	11,232.93
	Hospital deficit.....	11,408.17
	College of homeopathic medicine.....	77.61
	Homeopathic Hospital deficit.....	1,090.50
	College of dentistry....	11,886.19
	College of pharmacy....	1,913.05
	Graduate college.....	371.03
	Fine arts.....	891.70
	Summer session.....	145.47
		<hr/>
		95,406.15

Instruction, \$364,413.08.....

College of arts.....	\$183,008.00
College of applied sci- ence.....	34,880.00
College of law.....	23,975.00
College of medicine....	58,769.51
College of homeo- pathic medicine.....	5,300.00
College of dentistry....	25,100.00
College of pharmacy....	5,600.00
College of fine arts....	6,200.00
Music, tuitions.....	6,412.22
Graduate college.....	5,520.00
	<hr/>
	354,764.73
Summer term.....	9,648.35
	<hr/>
	364,413.08

	Salaries.	Labor, equipment, supplies.
Administration.....	\$22,915.58	\$4,754.82
Library.....	7,123.32	.....
Commencement and general lectures.....	2,321.35	.....
Superintendent build- ing, assistant.....	6,332.59	82.98
Janitors.....	21,069.74	3,247.95
Engineer and firemen.	9,158.05	1,329.99
Fuel.....	.....	31,712.77
Repairs.....	.....	30,033.99
Printing.....	.....	5,059.38
Advertising.....	.....	2,569.84
Telephone and tele- graph.....	.....	1,184.71
Gas, water, electricity, ice.....	.....	6,405.69
Postage.....	.....	3,634.00
Miscellaneous.....	.....	16,214.90
Alumni secretary and bulletin.....	2,720.00	1,026.71
	<hr/>	<hr/>
	71,640.63	107,257.73

General operating ex-
penses, \$178,898.36.

Construction and land, \$238,132.28.	Hospital.....	\$62,860.79
	Nurses' home.....	48,508.39
	Men's gymnasium.....	29,273.85
	Women's gymnasium.....	40,389.84
	Equipment new building.....	29,956.18
	Other building equipment.....	4,035.27
	Other buildings.....	2,430.67
	Paving and walks.....	5,192.51
	Tunnel.....	1,372.12
	Land.....	14,112.66
		<hr/>
		238,132.28
Special funds, \$97,725.57.	Hospital.....	\$50,114.43
	Homeopathic Hospital.....	9,022.45
	Currier Hall.....	31,698.25
	Law loan book.....	263.49
	Storeroom.....	3,730.70
	Tuition refund.....	170.25
	Carr fund.....	2,485.00
	Gifford fund.....	71.00
	Lowden fund.....	150.00
	Bryan fund.....	20.00
		<hr/>
		97,725.57

State University, exclusive of extension and service, \$994,471.19.

Total operating expenses, \$658,613.34.....

The University of Iowa,
total expenditures,
1914-15, \$1,017,805.72.

Extension and industrial service work, \$23,334.53.	Epidemiologist.....	\$5,904.03
	University extension.....	17,430.50
		<hr/>
		23,334.53

Educational equipment and supplies, \$100,532.91.	Library books and supplies.....	\$18,776.13
	College of Arts.....	21,671.78
	College of Applied Science.....	13,280.65
	College of Law.....	1,162.08
	College of Medicine.....	12,593.85
	Hospital deficit.....	12,868.35
	College of Homeopathic Medicine.....	125.49
	Homeopathic Hospital deficit.....	1,787.57
	College of Dentistry.....	13,748.42
	College of Pharmacy.....	2,003.95
	Graduate College.....	384.53
	Fine Arts.....	1,304.47
	Summer session.....	825.64
		<hr/>
		100,532.91

Instruction, \$388,233.74.....

College of Arts.....	\$193,528.28
College of Applied Science.....	37,821.30
College of Law.....	23,350.00
College of Medicine.....	63,240.18
College of Homeopathic Medicine.....	5,300.00
College of Dentistry.....	27,059.99
College of Pharmacy.....	6,615.00
College of Fine Arts.....	4,545.00
Music, tuitions.....	9,555.75
Graduate College.....	6,800.00
	<hr/>
	377,815.50
Summer term.....	10,418.24
	<hr/>
	388,233.74

	Salaries.	Labor, equipment, supplies.
Administration.....	\$25,371.73	\$6,415.75
Library.....	7,380.00	.....
Commencement and general lectures.....	2,379.19	.....
Superintendent buildings, assistant.....	6,392.66	124.10
Janitors.....	22,896.12	2,721.96
Engineers and firemen.....	7,351.32	1,309.59
Fuel.....	.....	25,841.42
Repairs.....	.....	30,257.45
Printing.....	.....	4,181.28
Advertising.....	.....	2,511.62
Telephone and telegraph.....	.....	1,287.11
Gas, water, electricity, ice.....	.....	4,334.93
Postage.....	.....	3,735.00
Miscellaneous.....	.....	11,973.46
Alumni secretary and bulletin.....	2,840.00	542.00
	<hr/>	<hr/>
	74,611.02	95,235.67

General operating expenses, \$169,846.69.

		Gymnasium.....	\$3,040.71
		Chemistry building...	172,282.28
		"Emergency".....	4,040.42
		Mechanical engineering building.....	40,051.96
		Transportation building.....	49,801.69
		Heating plant.....	18,941.60
		Margaret Hall Annex..	5,617.00
		Sewage plant.....	4,072.74
		Other buildings.....	6,007.02
		Improvement of grounds.....	14,123.21
			<hr/> 317,978.63
		Agricultural engineering.....	\$861.68
		Dairy.....	28,995.23
		Farms.....	19,238.33
		Horticulture.....	2,735.09
		Veterinary hospital...	2,281.39
		Other departments....	8,948.18
		Operating hospital....	9,886.60
		Operating storeroom...	10,603.89
		Women's dormitory...	4,277.05
		School fund.....	1,362.50
		Fees refunded.....	6,656.61
			<hr/> 95,846.55
	(Construction and land, \$317,978.63.		
	Special funds, \$95,846.55.		
State College, exclusive of extension and service, \$1,037,833.47.			
	Total operating expenses, \$624,008.29.....		

Iowa State College of Agriculture and Mechanic Arts, total expenditures, 1913-14, \$1,461,684.25.

		Serum plant and equipment.....	\$21,750.77
		Land purchased.....	21,123.33
			<hr/> 42,874.10
	(Construction, \$42,874.10.		
	Special funds, \$142,444.59.		
	Extension and industrial service work, \$424,850.78.		
		Agricultural experiment station.....	\$15,028.11
		Engineering experiment station.....	1,582.64
		Agricultural extension.	761.43
		Serum fund.....	125,072.41
			<hr/> 142,444.59
	Operating expenses, \$239,532.09.....		

Educational equipment and supplies, \$144,974.02.	Library books and supplies	\$6,958.96			
	Agricultural division ..	59,241.35			
	Agricultural engineering	4,529.02			
	Engineering division ..	25,715.44			
	Home economics	20,883.08			
	Veterinary medicine ..	8,008.62			
	Industrial science	3,120.64			
	Noncollegiate	14,303.81			
	Veterinary practical course	588.56			
	Summer term	1,624.54			
		144,974.02			
Instruction, \$313,158.01	Agriculture			\$106,006.17	
	Agricultural engineering			12,420.99	
	Engineering			78,627.77	
	Home economics			52,689.24	
	Veterinary medicine ..			16,854.73	
	Industrial science			7,547.22	
	Noncollegiate			31,647.95	
				305,804.07	
	Summer session			7,353.94	
				313,158.01	
General operating expenses, \$165,876.26.			Labor, equipment, supplies.		
	Administration	\$27,350.09		\$8,282.58	
	Library	6,712.43			
	Commencement and general lectures			2,053.23	
	Janitors	14,726.75		1,641.26	
	Engineers and firemen ..	9,786.78		10,113.54	
	Fuel			36,318.37	
	Repairs and contingent ..			39,034.51	
	Printing and advertising ..			5,495.33	
	Care grounds	989.63		3,371.85	
		59,565.59		106,310.67	
Experimental work, \$145,544.00.	Agriculture	\$51,173.46		\$62,990.32	
	Engineering	6,195.71		7,067.07	
	Good roads	4,166.48		4,962.36	
	Veterinary	2,328.43		6,660.26	
		63,864.08		81,680.01	
Extension work, \$93,988.	Agriculture	\$43,673.51		\$29,770.12	
	Engineering	8,435.86		5,964.91	
	Hog cholera serum	6,143.60			
		58,252.97		35,735.03	

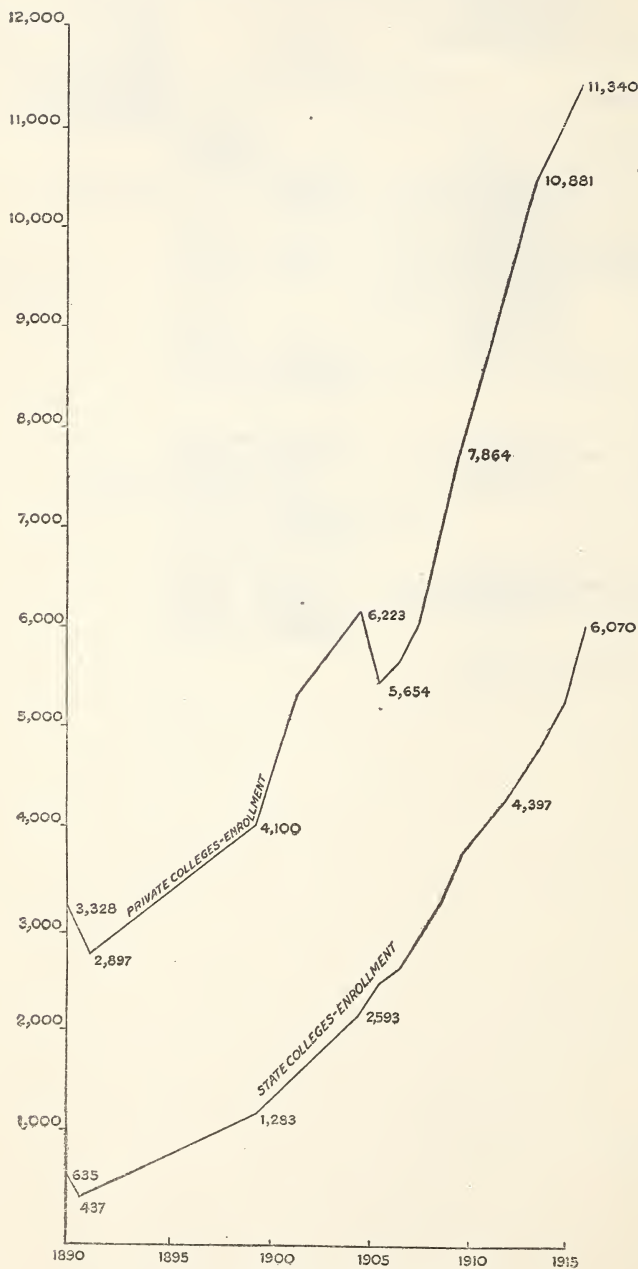
Iowa State College of Agriculture and Mechanic Arts, total expenditures, 1914-15, \$1,599,430.41.

		Chemical building	\$123,892.22
		Women's dormitory....	52,096.52
		Plant industry building.....	57,038.13
		Steam and gas laboratory.....	13,989.84
	Construction and land, \$338,336.52.	Transportation building.....	22,247.24
		Central heating plant..	32,569.47
		Dormitory annex	10,494.86
		Other buildings.....	4,509.94
		Grounds,improvement	16,498.30
			338,336.52
State college, exclusive of extension and service, \$1,150,081.67.	Total operating ex- penses, \$687,144.73.		
		Agriculturaleducation.	\$2,418.86
		Dairy	38,500.71
		Farms	23,918.81
		Horticulture	3,594.07
	Special funds, \$124,600.42.	Veterinary hospital...	2,933.29
		Other department sales	14,355.34
		Hospital	10,168.23
		Storeroom	10,383.88
		Dormitories	9,995.31
		Scholarships	1,924.66
		Fees refunded.....	6,406.91
			124,600.42
	Construction and land, \$14,778.21.	Land purchased.....	\$10,875.00
		Drainage and fence....	3,903.21
			14,778.21
Extension and indus- trial service work, \$449,348.74.	Operating expenses, \$294,228.82.		
		Agricultural experi- ment station.....	\$19,815.91
	Special funds, \$140,341.71	Engineering experi- ment station.....	1,270.22
		Veterinary investiga- tion	225.67
		Agricultural extension.	1,038.48
		Engineering extension.	1,319.75
		Serum fund.....	116,671.68
			140,341.71

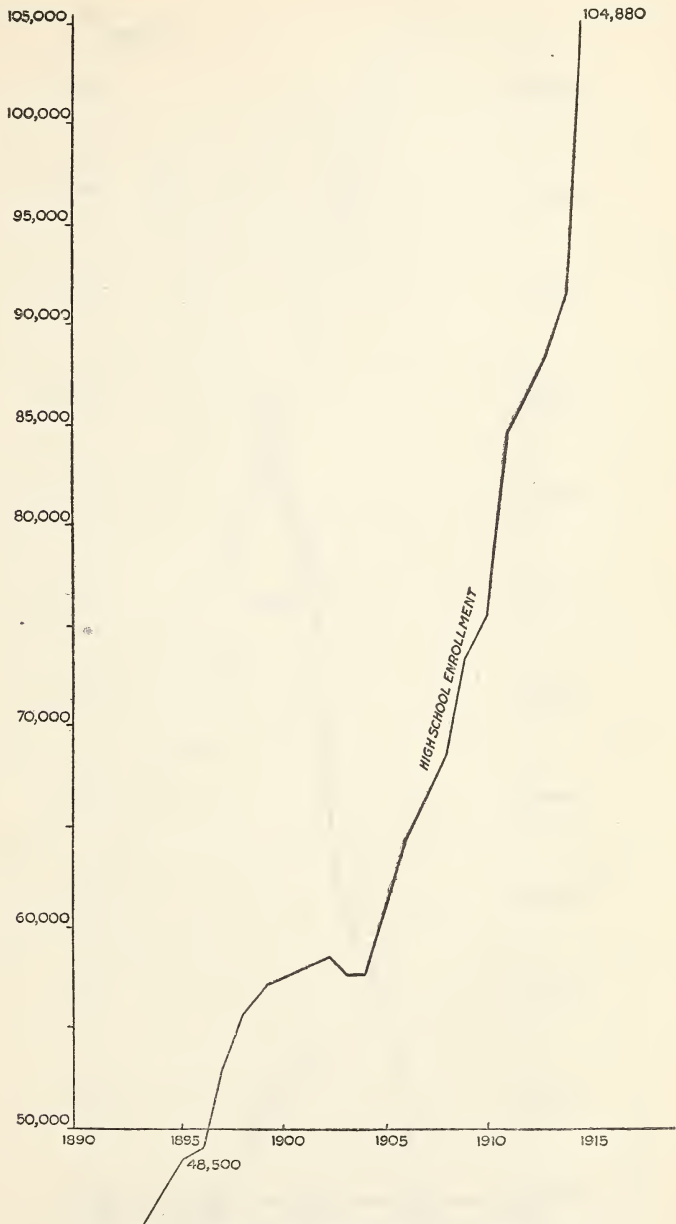
Educational equipment and supplies, \$172,218.11.	Library books, supplies.	\$7,844.52		
	Agricultural division..	63,207.74		
	Agricultural engineering.....	5,095.51		
	Engineering.....	30,523.53		
	Home economics.....	25,868.10		
	Veterinary medicine..	7,172.51		
	Industrial science.....	3,157.83		
	Noncollege.....	24,666.87		
	Veterinary practice course.....	1,588.77		
	Summer session.....	3,092.73		
		172,218.11		
Instruction, \$362,291.87.				
General operating expenses, \$152,634.75.		Salaries.	Labor, equipment, supplies.	
	Administration.....	\$28,201.33	\$9,347.00	
	Library.....	7,283.32		
	Sunday and general lectures.....		2,635.98	
	Janitors.....	16,927.40	2,196.16	
	Engineers and firemen.	9,682.09	10,414.53	
	Fuel.....		30,227.47	
	Repairs and construction.....		25,661.22	
	Advertising.....		5,112.43	
	Care grounds.....	1,701.51	3,244.31	
		63,795.65	88,839.10	
Experimental work, \$163,833.32.	Agriculture.....	\$60,895.69	\$68,727.73	
	Engineering.....	8,838.86	6,046.27	
	Good roads.....	5,670.25	6,780.35	
	Veterinary.....	1,432.58	5,491.54	
		76,837.38	87,045.94	
Extension work, \$130,345.50.	Agriculture.....	\$55,753.43	\$41,913.08	
	Engineering.....	10,558.50	6,753.58	
	Hog cholera serum....	7,233.32	8,133.59	
		73,545.25	56,800.25	

APPENDIX H.

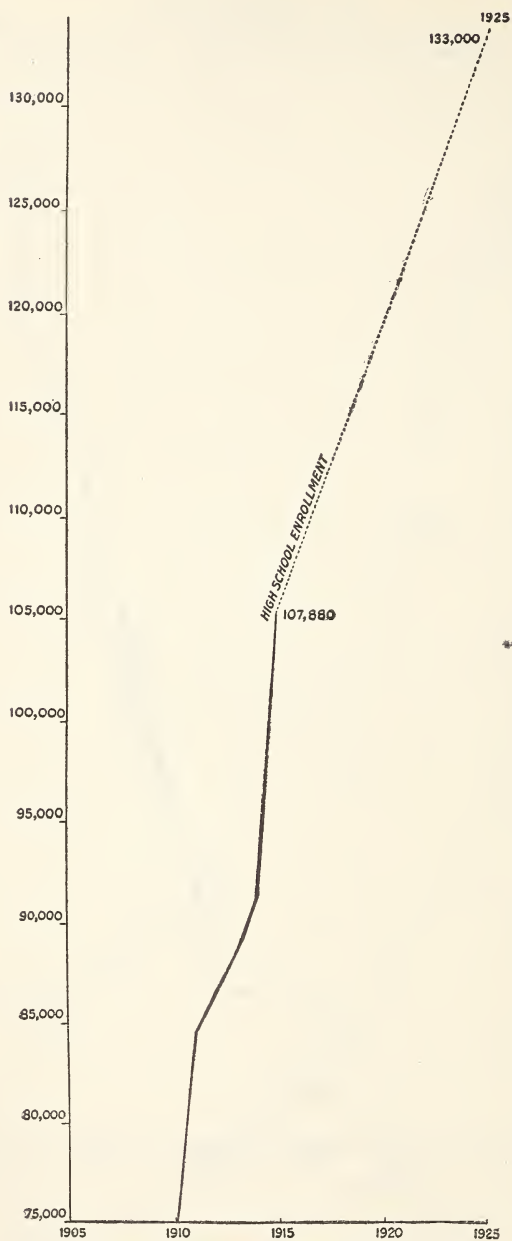
DIAGRAMS AND OUTLINE MAPS.



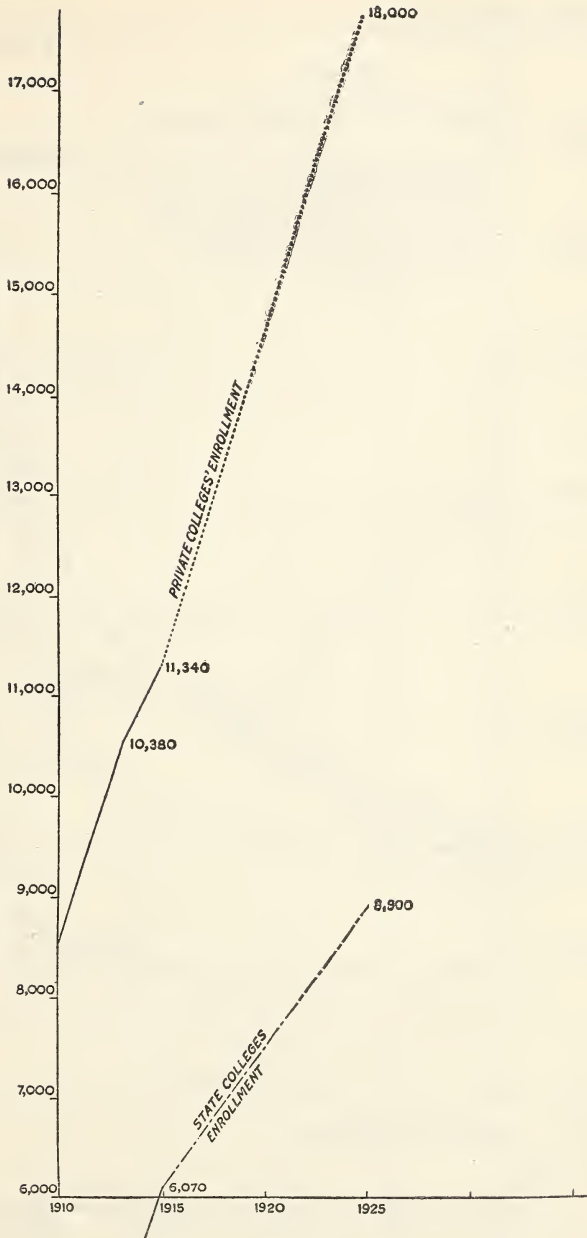
Private and State College enrollment, Ohio.



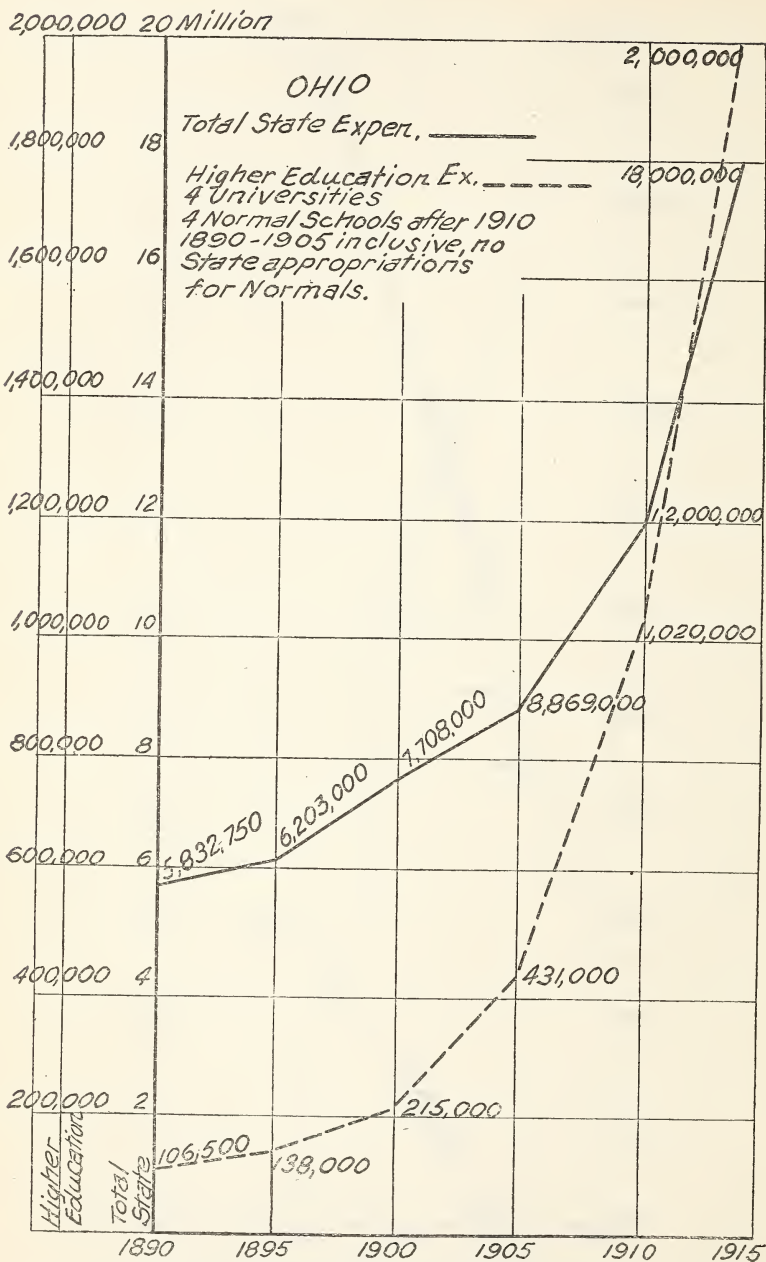
Growth of high-school enrollment, Ohio, 1890-1915.



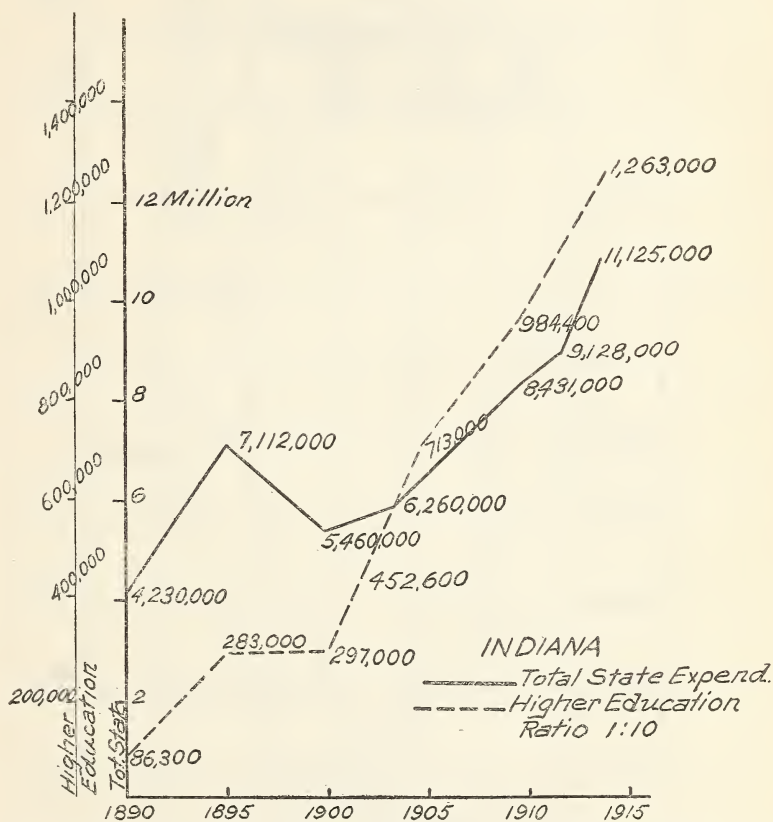
Forecast of high-school enrollment in Ohio.



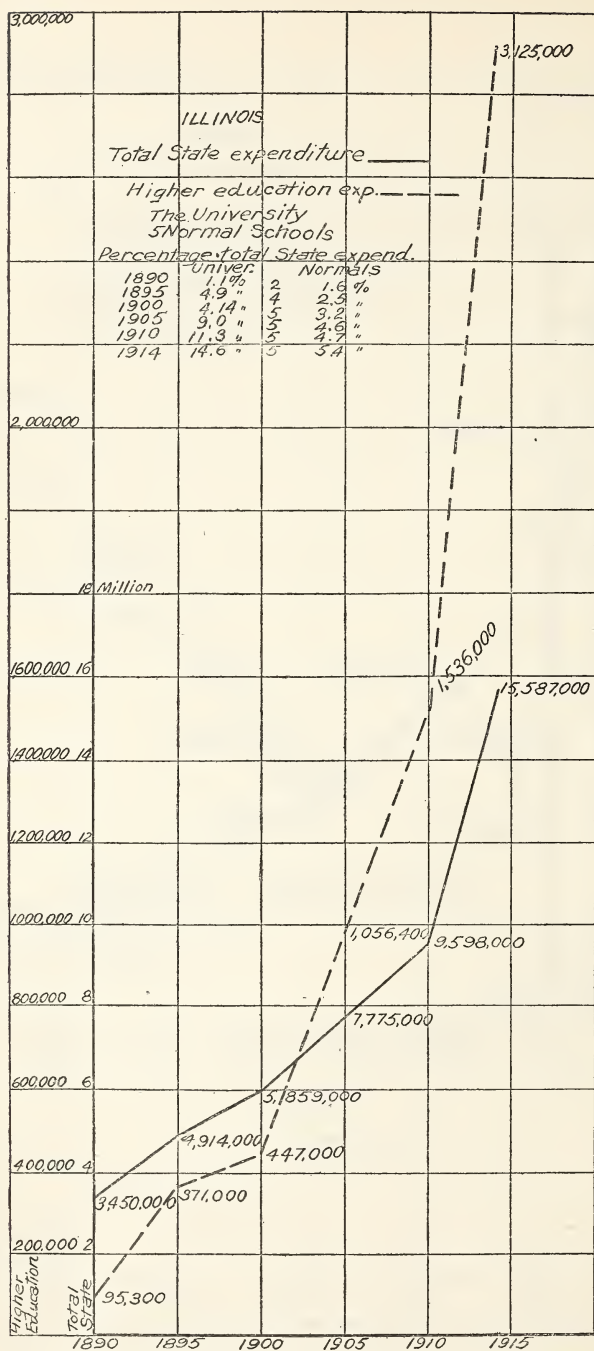
Forecast of private and State College enrollment in Ohio.



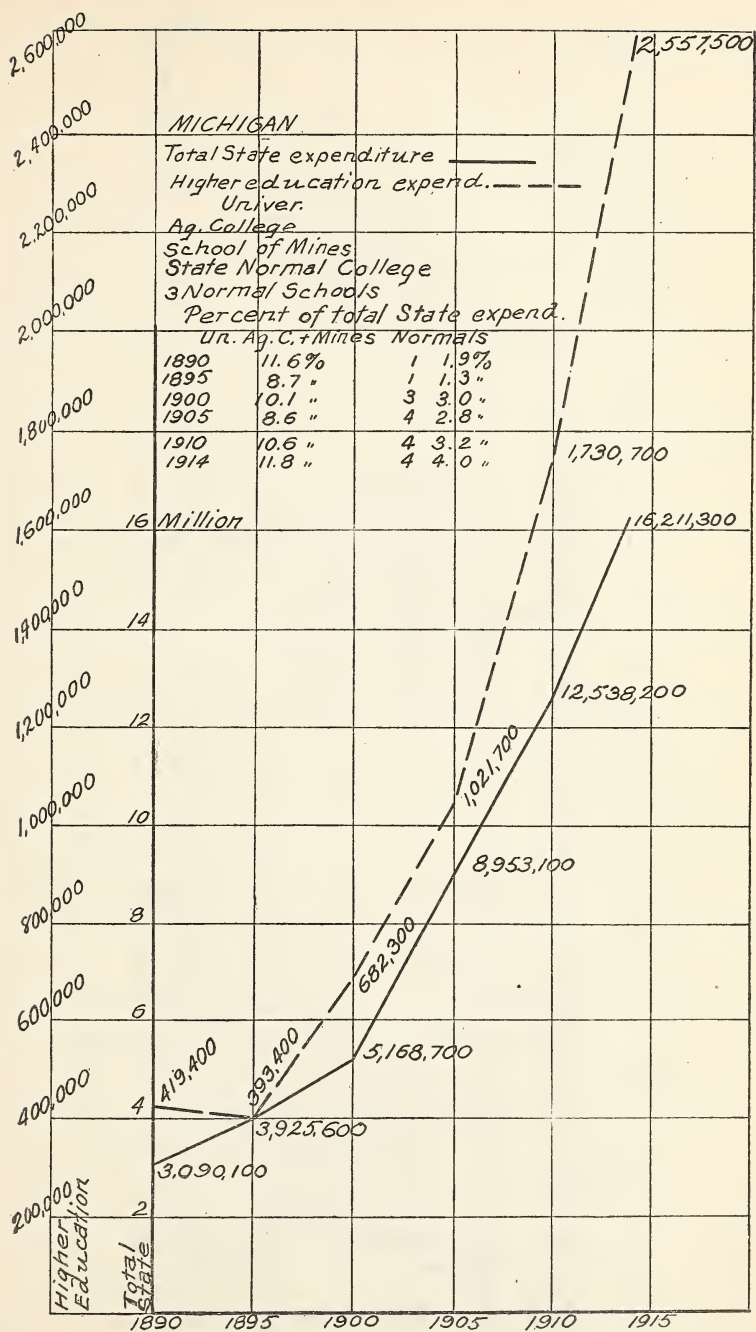
State expenditures for higher education in Ohio compared with total State expenditures.



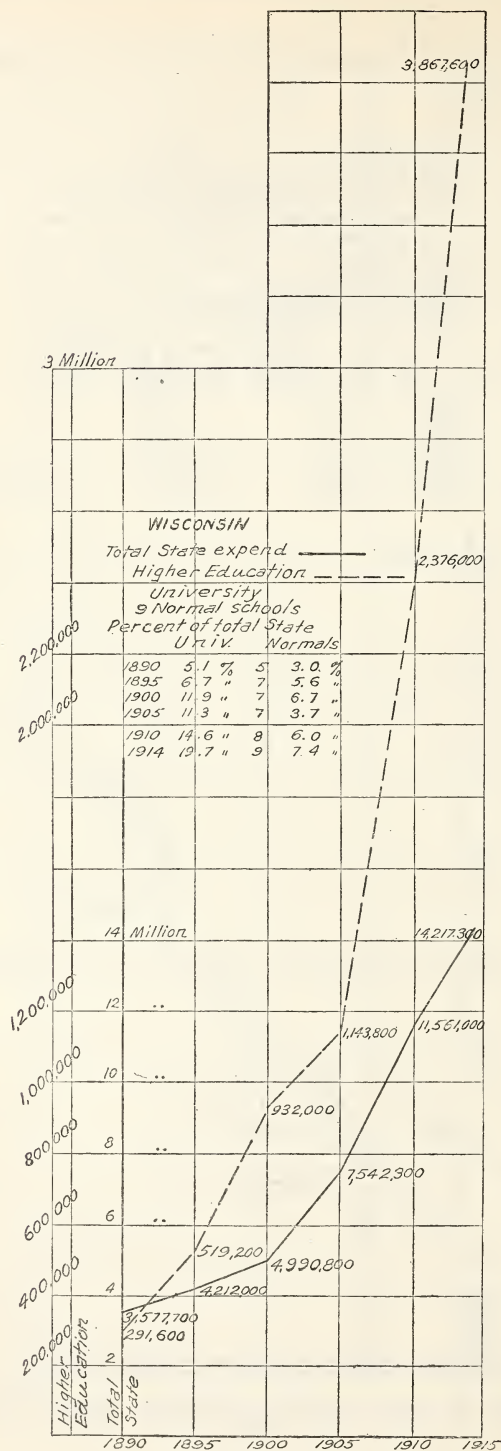
State expenditures for higher education in Indiana compared with total State expenditures.



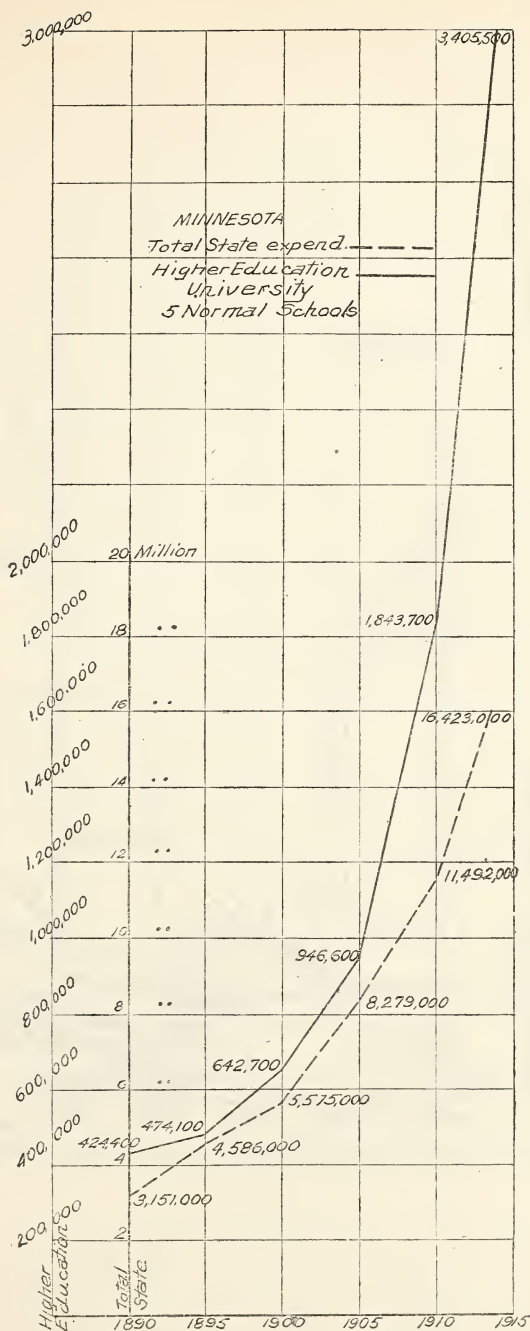
State expenditures for higher education in Illinois compared with total State expenditures.



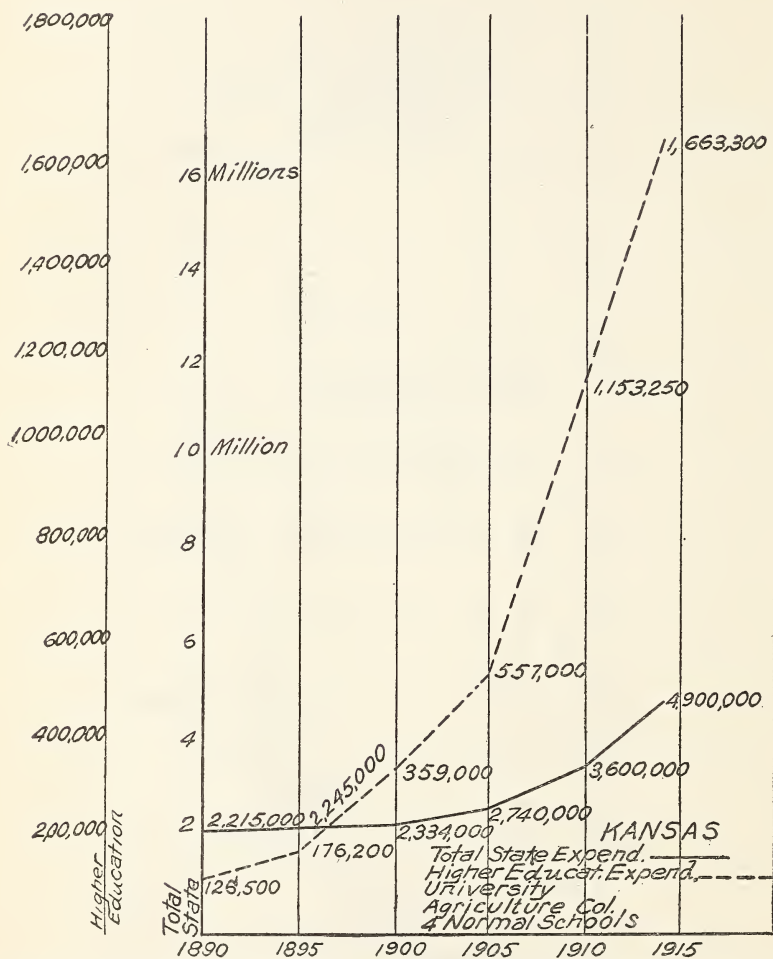
State expenditures for higher education in Michigan compared with total State expenditures.



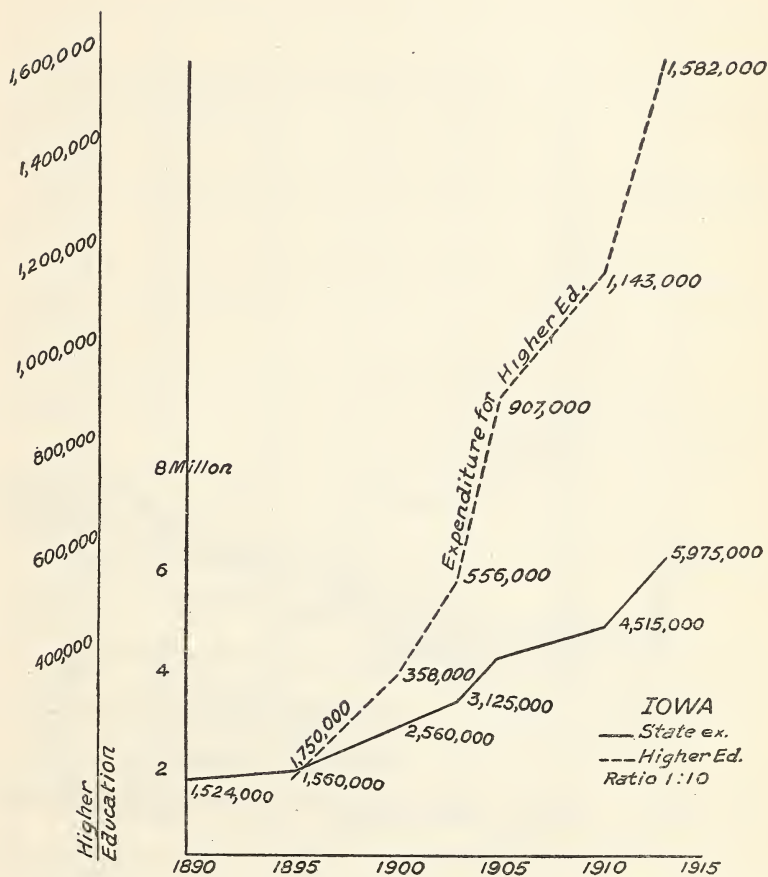
State expenditures for higher education in Wisconsin compared with total State expenditures.



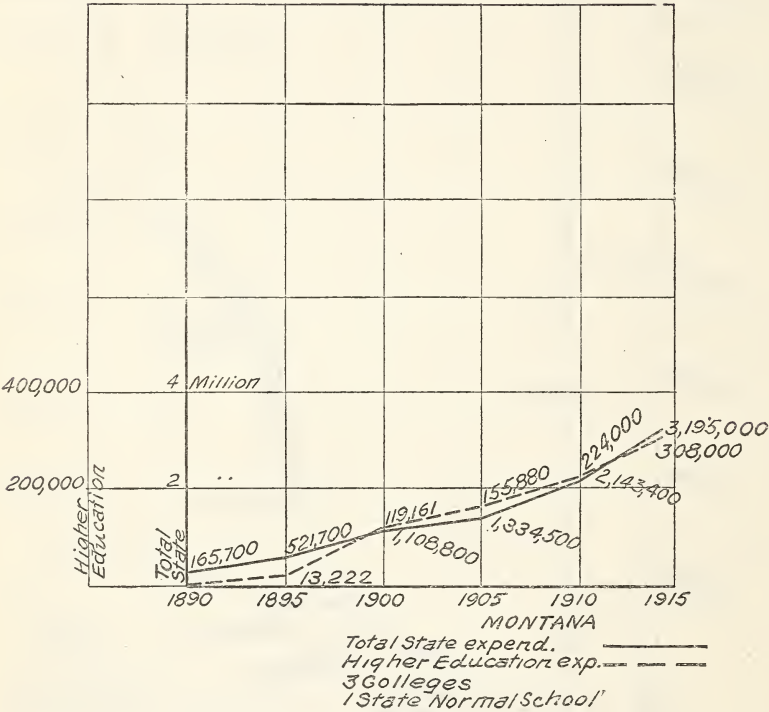
State expenditures for higher education in Minnesota compared with total State expenditures.



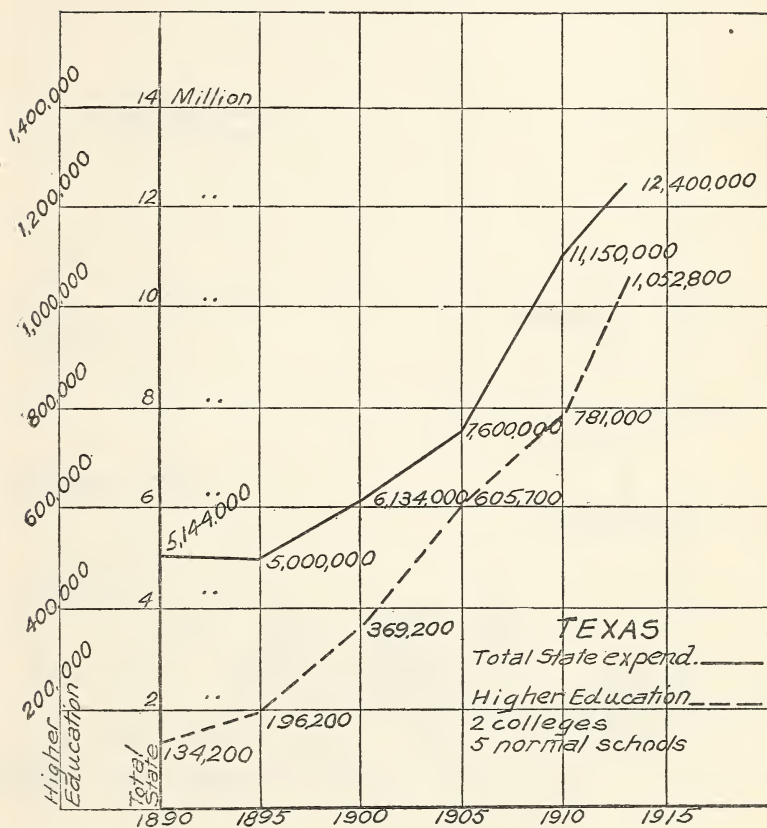
State expenditures for higher education in Kansas compared with total State expenditures.



State expenditures for higher education in Iowa compared with total State expenditures.

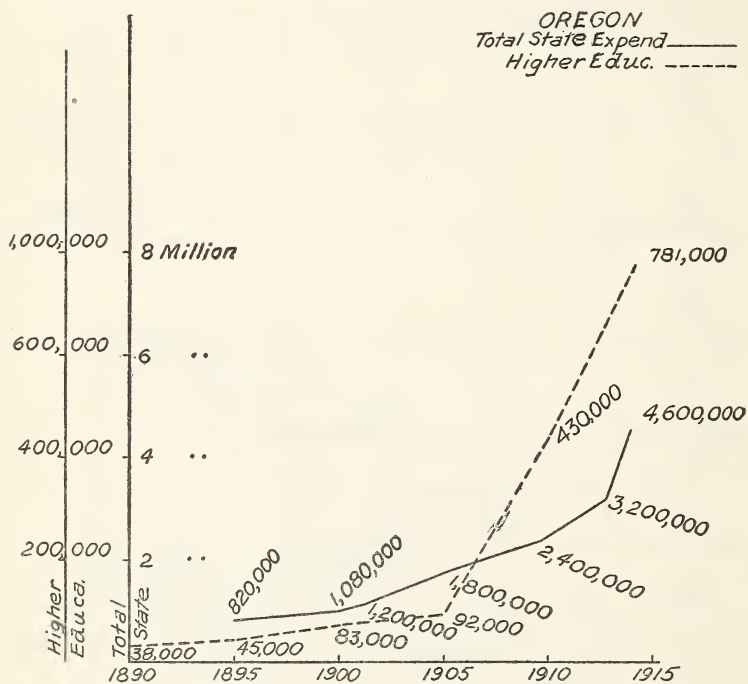


State expenditures for higher education in Montana compared with total State expenditures.

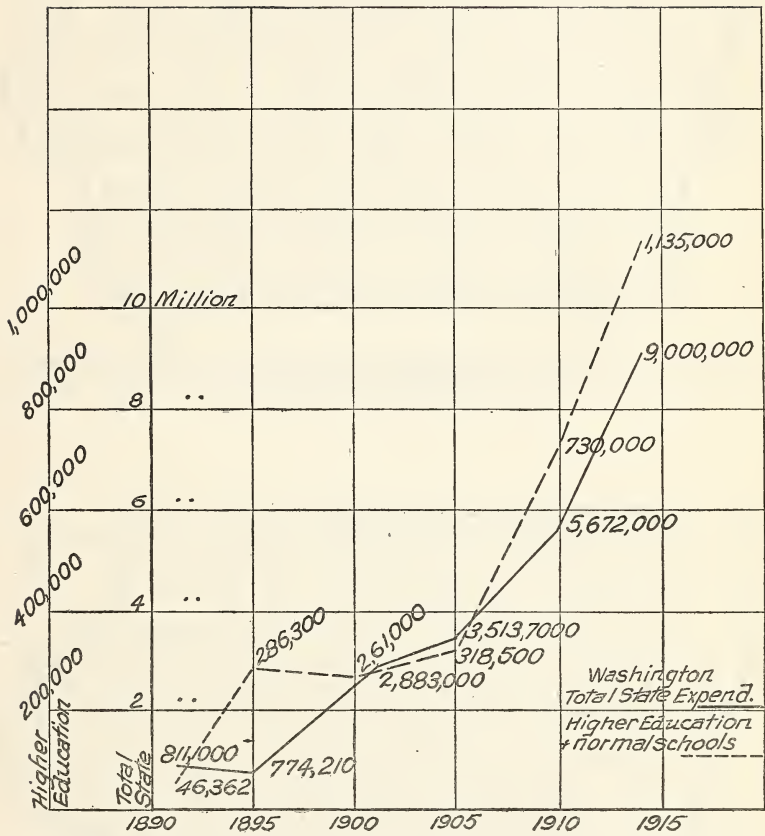


State expenditures for higher education in Texas compared with total State expenditures.

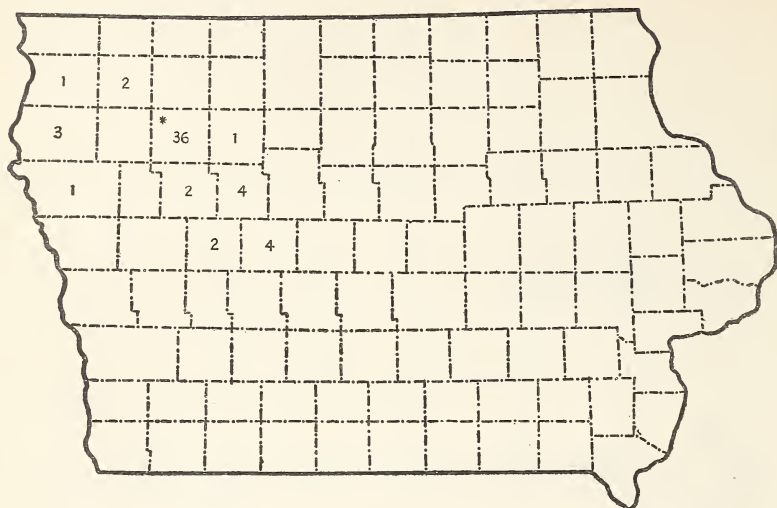
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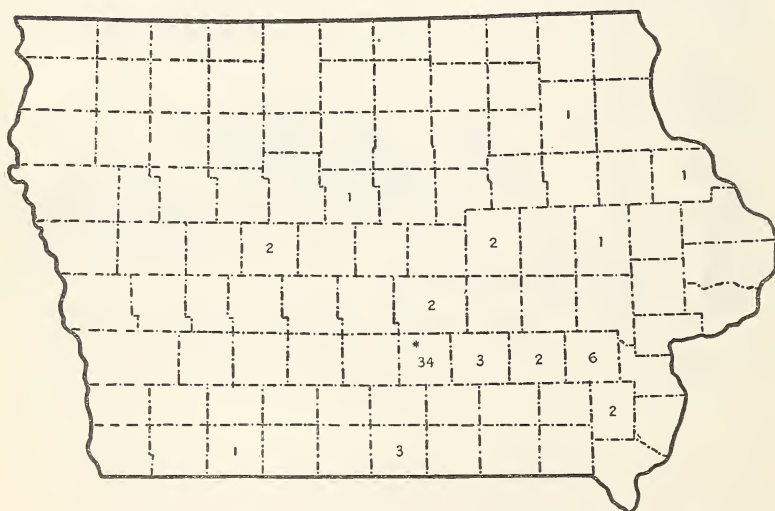
State expenditures for higher education in Oregon compared with total State expenditures.



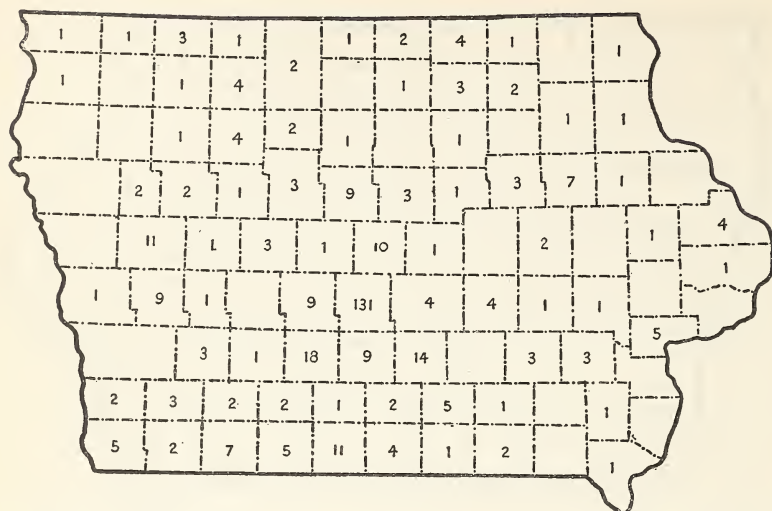
State expenditures for higher education in Washington compared with total State expenditures.



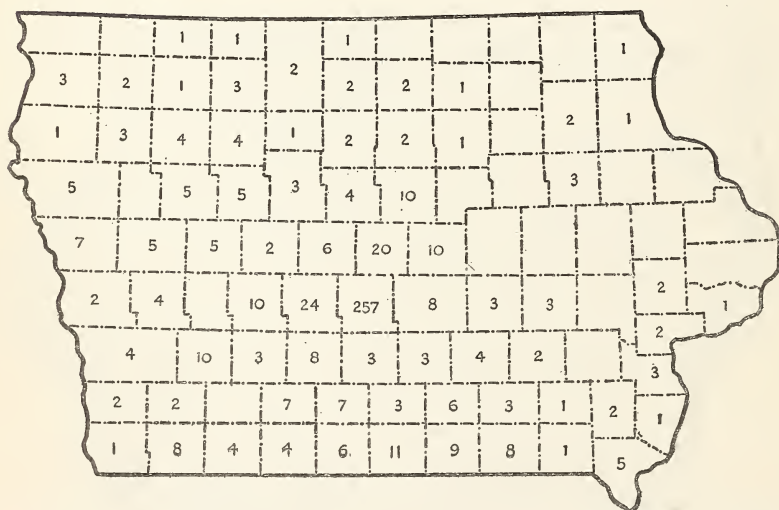
Buena Vista College, Storm Lake, Iowa. Distribution of students by counties.
From outside the State, 3.



Central College, Pella, Iowa. Distribution of students by counties.

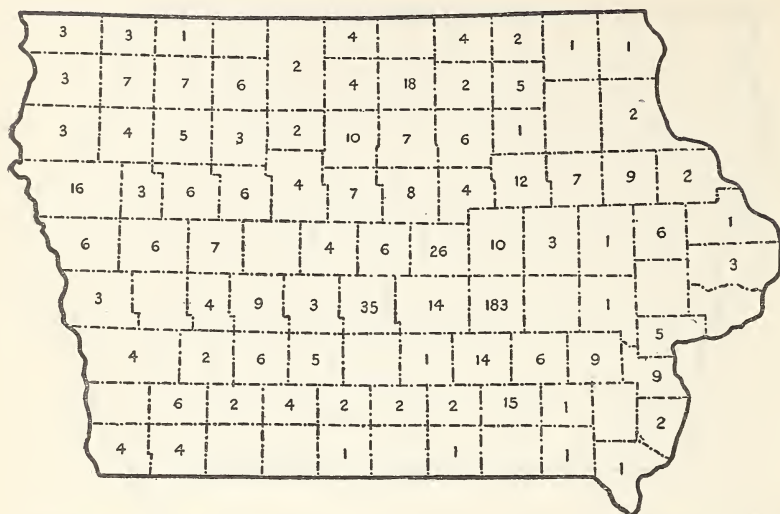


Des Moines College, Des Moines, Iowa. Distribution of students by counties, 1915-16.
From Iowa, 381; from outside the State, 25.

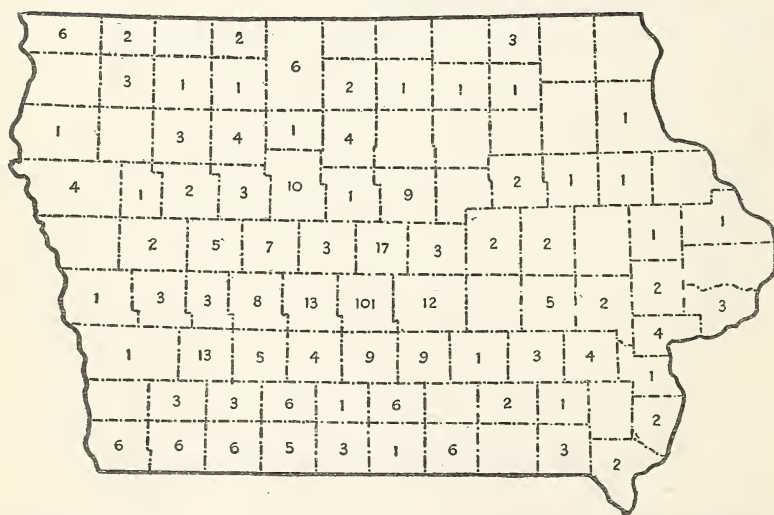


Drake University, Des Moines, Iowa, College of Liberal Arts. Distribution of students by counties, 1914-15.

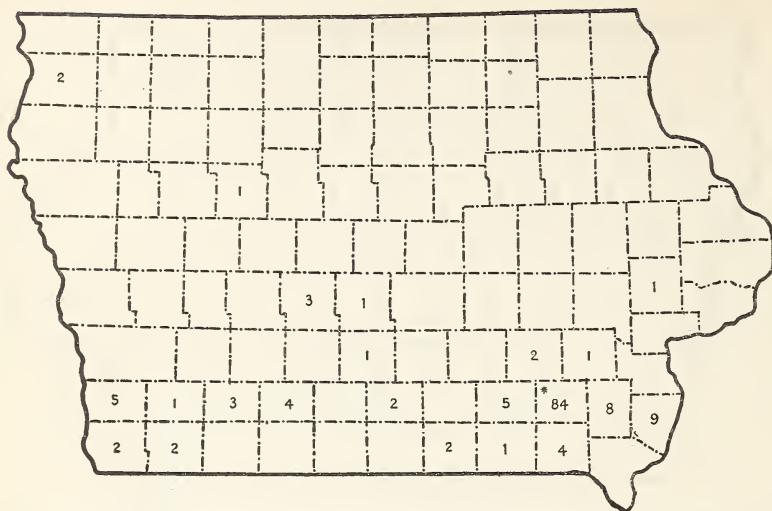
From Iowa, 580; from outside the State, 107; total, 687.



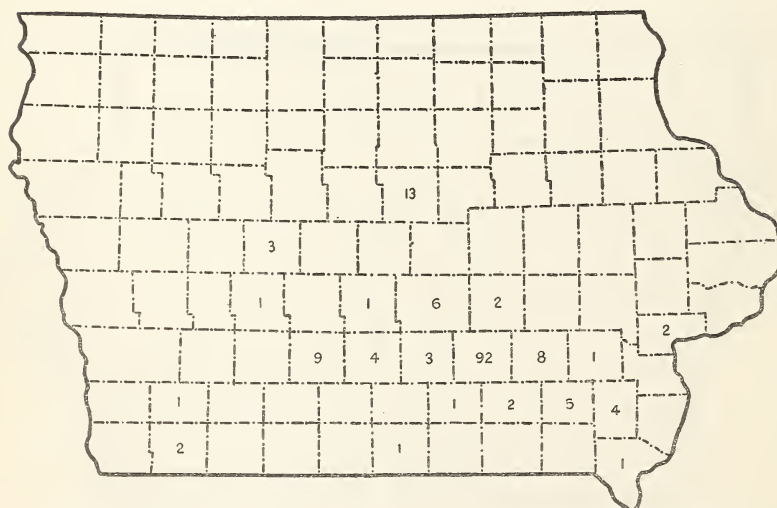
Grinnell College, Grinnell, Iowa. Distribution of students by counties.
From 19 other States, 57; from foreign countries, 3.



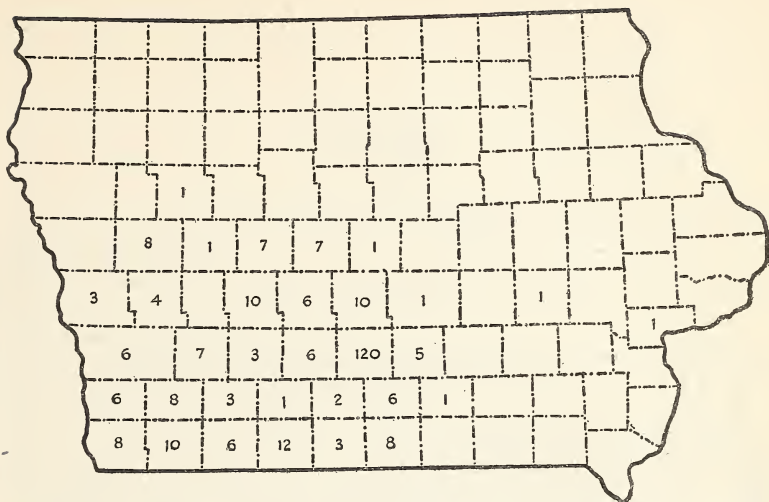
Highland Park College, Des Moines, Iowa. Distribution of college students by counties,
1914-15.
From 31 other States, 149; from foreign countries, 19.



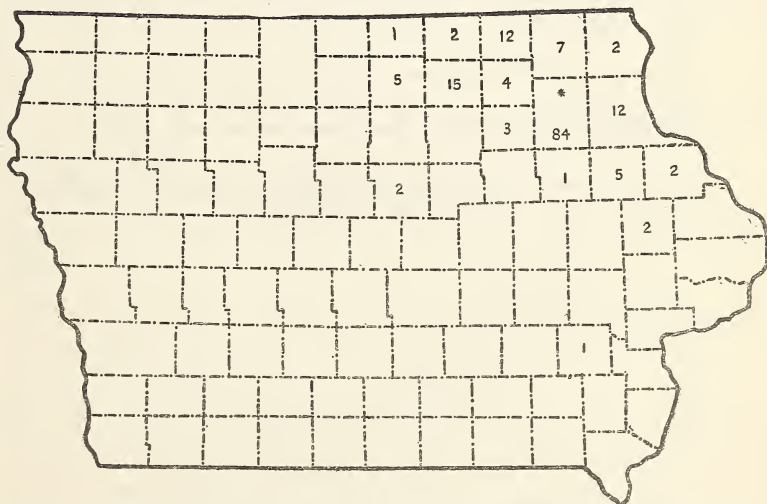
Parsons College, Fairfield, Iowa. Distribution of students by counties.
Number of students from outside the State, 3.



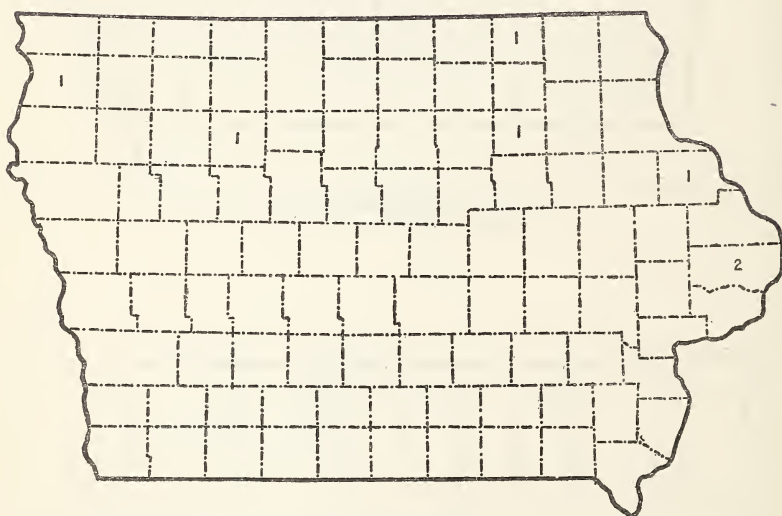
Penn College, Oskaloosa, Iowa. Distribution of college students by counties.
From Iowa, 162; from seven other States, 13.



Simpson College, Indianola, Iowa (College Liberal Arts). Distribution of students by counties.
From outside the State, 17.



Upper Iowa University, Fayette, Iowa. Distribution of students by counties, 1915-16.
From other States, 7.



Wartburg College, Clinton, Iowa. Distribution of students by counties.
From outside the State, 19.

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